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8 March 1984

China Report

SCIENCE AND TECHNOLOGY

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NATIONAL DEVELOPMENTS

HEBEI'S CURRENT TECHNICAL SCHOOL RECRUITMENT METHOD REFORMS DETAILED

Shijiazhuang HEBEI RIBAO in Chinese 4 Jun 83 p 2

[Article by Fan Xin [4636 2450]: "Technical Schools Reform Recruitment Measures This Year"]

[Text] Recruitment work for technical schools in Hebei this year has been independently organized and carried out by labor personnel departments; this is a major reform of technical recruitment work. Current matters relating to it are:

What reforms have there been this year in technical school recruitment work?

Based on the spirit of the Central Committee and the memorandum of the provincial government, beginning this year technical school recruitment work has been independently organized and carried out by the Provincial Labor Personnel Department. The placement system for technical school graduates has been changed from overall placement to directional recruitment, directional training and choosing the best, which has also somewhat reformed the treatment of technical school graduates.

Why must these reforms be carried out?

In the past, technical school recruitment was combined with that of universities, colleges and technical high schools, and after dealing with their enrollment, technical schools were then enrolled. In this way, some enrolled students never entered themselves for technical school examinations and were not suited to their studies; enrollment work was carried out late, affecting completion of the first semester's teaching plans; technical schools' training goals, recruitment limits and objectives are different from those of colleges, universities and technical high schools, thus combined recruitment is unsuitable for both sides, and therefore must be reformed.

How is this year's recruitment work being carried out?

A Provincial Technical School Recruiting Office has been established to carry out unified organization and planning, and prefectures and cities have also correspondingly established recruiting offices to be responsible for the specific work.

What qualifications should examinees have?

Examinees must be unmarried youths from cities and towns without registered permanent agricultural residence, in good health, and having a junior or senior high school educational level; they must support the CPC, have a deep love for socialism and labor, voluntarily enter themselves for technical school examinations, submit themselves to state placement, and be determined to energetically study for socialist modernization and construction. The age for junior high school graduates is from 15 years (born before 1 September 1968) to 17 years (born after 1 September 1966), and the age for senior high school graduates is from 15 to 20 years (born after 1 September 1963).

Examinees who were enrolled in technical schools in 1982 but refused to submit themselves to placement will not be entered this year.

What about entrance procedures and times?

All present or past graduates who conform to technical school recruitment standards and have diplomas and permanent residence booklets will be separately entered at school and subdistrict offices or at entrance centers designated by prefectures and cities. Children of staff members and workers who run technical school units must also have parental unit location identification letters, and will be entered at places designated by concerned departments of local organizations. All children of staff members and workers of mobile or temporary units should be entered at examinees' residences. At entrance time, examinees must fill out entrance registration forms, pay a one-yuan fee, and in a few days submit three 1-inch full-length, bareheaded photos. After examination and approval by the county (district) or prefectural and municipal technical school recruiting offices, "Test Permission Cards" will be issued. Examinees who take technical school exams are not required to also take university, college and technical high school exams. Entrance times are from 15 to 20 June.

Should there be pretesting? When are forms to be filled in and submitted?

Do not pretest on principle, but since the recruitment number is limited, so as not to stifle talent there is selection leeway, and to reduce nonessential work volume, each prefecture and city may also adopt suitable measures to control the number of examinees. As to control methods, each prefectural and municipal technical school recruiting office may make decisions based on its own specific conditions.

Fill in and submit forms after announcement of initial grade selection.

What about subject testing and times?

Testing is in five subjects, i.e., politics, language and literature, mathematics, physics and chemistry, combined into four test books, i.e., politics, language and literature, mathematics, and physics and chemistry. For senior and junior high school graduates, set separate questions, establish separate examination rooms, and after entering school, group into separate classes.

The length of schooling is 2 years for senior high school graduates and 3 years for junior high school graduates.

The testing time for senior high school graduates is 19 and 20 July. Each prefectural and municipal technical school recruiting office may decide testing times for junior high school graduates.

All technical school recruiting for other provinces and cities, and for schools which straddle prefectures and cities, as well as interior recruiting for technical schools, is organized and carried out in combination with social recruiting.

How about enrollment?

Enrollment work is organized by the Provincial Technical School Recruiting Office, carried out by each prefecture and city, and enrollment is by choosing the best. After new students begin school, the school will carry out reexamination within 3 months, discover those who do not conform to requirements and entrance procedures, and after reporting to their local labor departments for approval, send them back home.

How is the proportion determined for giving preference to children of staff members and workers in units of the enterprises running the schools?

Preference is given separately based on the original National Labor Bureau's "Suggestions Concerning 1982's Technical School Recruitment Work" combined with our province's actual conditions and according to different trades, production specializations and sources of income, the proportion being determined through consultations between the school and the recruiting office. Carry out directional recruitment and cooperative substitute training, school contract teaching, and unit responsibility for personnel training fees.

Based on state stipulation, "Detailed Rules and Regulations" have been formulated for work such as political and physical examinations.

12267
CSO: 4008/136

40 KEY SCIENTIFIC, TECHNOLOGICAL ACHIEVEMENTS FOR PROMOTION IDENTIFIED

Beijing RENMIN RIBAO in Chinese 21 Jul 83 p 3

[Article: "Forty Key Scientific and Technical Achievements for Promotion by the State During the Sixth 5-Year Plan"]

[Text] The 40 key scientific and technical achievements for promotion by the state during the Sixth 5-Year Plan period.

1. Superior varieties of agricultural crops, livestock and aquatic products, and high-yield techniques.

2. Superior varieties of rapid-growing trees, tea-oil trees and bamboo, and superior cultivation techniques.

3. Maintaining the freshness of fruits, vegetables, fresh eggs and the like.

4. Maceration techniques for extracting plant oils.

5. Compound fertilizers, microelement fertilizers, and scientific fertilizer application.

6. New high-effectiveness, low-toxic-residue agricultural pesticides.

7. Closed-cycle water use by papermaking machinery,

8. Sugar production by the continuous extraction method and comprehensive utilization of bagasse.

9. Aniline treatment in leather production.

10. New textile processes.

11. Textile dyeing and conditioning.

12. Surface decoration and treatment.

13. Tunneling machinery, illumination, explosives, anchors, guniting equipment supports and shields for mining.

14. High-grade ordinary coal extraction and thin-seam extraction combines.

15. Oilfield drilling and extraction equipment.

16. Constant-pressure oil and gas accumulation and transport processes for oilfields.

17. High-efficiency, energy-conserving electrical and mechanical products.

18. High-efficiency energy-conserving electric light sources.

19. Energy-saving techniques for motor vehicles and boats.

20. New insulating and refractory materials.

21. Utilization of solar energy and methane.

22. New-type oil and gas burner nozzles.

23. Several types of basic machine components.

24. New casting techniques.

25. New machining techniques.

26. Microelectronics technology.

27. Computer applications

28. Metal spray-coating and plating.

29. Heat treatment technologies.

30. New metallurgical and mining techniques

31. Continuous casting of steel and new high-speed steel varieties.

32. Use of rare earth elements.

33. New geological drilling and exploration techniques.

34. Construction techniques.

35. Conservation and replacement of precious metals.

36. New organosilicon and organifluorine materials.

37. New antibiotics and birth control drugs.

38. Centralized, electrified railway switching yards.

39. Road building and road maintenance techniques.

40. Municipal telephone communications and lines.

8480
CSO: 4008/163

GANSU MEETING ON 'NEW TECHNOLOGICAL REVOLUTION'

HK130341 Lanzhou Gansu Provincial Service in Mandarin 1100 GMT 11 Feb 84

[Text] The leading group of science and technology and the Propaganda Department of the provincial CPC Committee jointly sponsored a report meeting this morning on the new technological revolution.

(Guo Shangping), vice president of Lanzhou branch of China's Academy of Sciences, delivered a report on the background, characteristics, and effect of the new technological revolution. Jia Shijie, deputy secretary of the Gansu Provincial CPC Committee, spoke on the problem ot how to greet the new technological revolution in the province.

In his speech, Comrade Jia Zhijie said: As for the new technological revolution, some scholars in Western countries call it the fourth industrial revolution, and some term it the third wave. This means that with the extensive application of a series of new sciences and technologies in which information technique is the leading factor, changes are bound to take place in traditional forms of production, the set-up of production, and economic structure, and giant strides will be made in social production forces, and thereby new changes will take place in society. The new technological revolution is characterized by computers, biological engineering, new materials, new energies, and new technologies. In studying this problem, we must proceed from the specific conditions of our province and strive to make breakthroughs by taking advantage of our province so that the province's science and technology will develop by leaps and bounds and play a major role in making Gansu's economy flourish.

Comrade Jia Shijie set requirements in three areas on how to greet the new technological revolution. 1) Intensifying propaganda of the new technological revolution, 2) Strengthening organization and leadership over this field, and 3) Drawing up feasible plans for the development of science and technology in the province in the next 15 years.

Finally, he emphasized: In the face of the new technological revolution, we must realize that our knowledge and ability are insufficient and our science and culture fall behind, so we must combat ignorance, study scientific and cultural knowledge hard, import advance technology by every possible means, and make use of new scientific and technical achievements in line with the specific conditions of our province. Only by doing so will we be able to

speed up the economic development of our province and do a good job in the building of socialist material and cultural civilization.

More than 1,200 people attended the report meeting. They included leading comrades of the provincial CPC Committee and government, responsible persons of the departments, committees, offices, and bureaus under the province, responsible persons of universities and colleges, factories, mines, institutions, and research offices, and comrades of the press and propaganda units.

CSO: 4008/159

GUANGDONG GOVERNOR ON TECHNOLOGICAL REVOLUTION

HK220830 Guangzhou Guangdong Provincial Service in Cantonese 1130 GMT 18 Feb 84

[Text] The provincial People's Government held a science and technology forum this morning at the provincial science building on the subject of the new technological revolution. (Liang Zhiyao), deputy head of the provincial Information Institute of Science and Technology, was invited to give a brief lecture on the new industrial revolution. Leading comrades of the provincial and city CPC committees and the provincial and city governments, as well as principal leading comrades of departments, committees, offices, and bureaus under the provincial CPC Committee and the provincial government; and some comrades who attended the Second Plenary Session of the Fifth Provincial CPC Committee attended the forum, which was presided over today by Governor Liang Lingguang.

At the beginning of the forum, Liang Lingguang said: At present, we are facing a new situation in which we are challenged in domestic and external markets and by the new technological revolution. The main content of the new technological revolution centers on computers; it includes biological engineering, optical fibers, lasers, new raw materials, new sources of energy, and other new technology. Our application and popularization of these new types of technology will inevitably accelerate the pace of our four modernizations. Being a maritime province, Guangdong must strive to take the lead in dealing with the new technological revolution. The aim of the provincial government in organizing this forum is to let our leadership at all levels, first of all the leading comrades at and above office and bureau levels, to understand the basic situation of the technological revolution and to increase their scientific and technological knowledge in this respect, so that they will adopt practical measures to strengthen their leadership and accelerate the province's pace in the four modernizations.

The forum will deal with five special topics: 1) the general situation of the new industrial revolution; 2) microcomputers; 3) information technology and optical communications; 4) biological engineering; and 5) marine development. The above-mentioned topics will be lectured on by experts and scholars concerned from universities, colleges, and scientific and technological institutes and units.

CSO: 4008/159

PRC SCIENTIST JOINS JAPANESE ANTARCTIC EXPEDITION

OW171331 Beijing in Japanese to Japan 0930 GMT 17 Feb 84

[From the "friendship Square" program]

[Excerpts] Listeners in Japan, observation and survey of the Antarctica started in the "International Year of Earth Observation" during 1957 and 1958. Observation has continued to make progress since then. Currently, over 40 observation pots have been set up in Antarctic by 12 countries. China joined in Antarctica observation work 4 years ago in 1980, and a total of 35 research workers has been sent to the Antarctica by the end of last year. China's antarctica observation work has been conducted in cooperation with many friendly nations.

What is particularly worth mentioning is the assistance and cooperation rendered by the National Institute of Polar Region Studies, the Association for Promoting Polar Region Research, and the Oceanographic Institute of Tokyo University in Japan. Last November, (Chen Zhihua) of the Ocean Biology Center of the Second Oceanography Institute under the State Oceanic Bureau, joined in a Japanese Antarctic Expedition at the invitation of the Oceanographic Institute of Tokyo University. He spent 41 days on board the (Hakuho Maru), an oceanographic research ship, and conducted a biological survey in the Antarctic Ocean. He successfully completed his biological study in the Antarctic Ocean and safely returned to Beijing in January this year. In our program today, we will broadcast the impressions he gained while working with Japanese research workers in conducting a biological survey in the Antarctic Ocean for over a month.

[Begin (chen) recording in Mandarin fading into Japanese translation] The purpose of my joining this Japanese oceanographic survey was mainly to study how Japanese scientists conducted their research work, and what advanced equipment they used. It goes without saying that my Japanese friends have rendered me great assistance in this regard.

There were so many figures concerning data and standards of equipment that I can remember. Later, my Japanese friends provided me with data and related material. For example, Mr (Terasaki), who was responsible for research work, always provided me with copies of material and kindly explained that material, though he himself was always busy with his own research work. Thanks to his

assistance, I was able, not only to gain a better understanding of advanced equipment and instruments used by Japanese research workers in their oceanographic survey, but also to bring back data about current oceanographic research.

Prior to may departure for Japan, I learned from responsible persons of the State Oceanic Bureau that ship's cable made in China often causes trouble while inoperation. When I saw with my own eyes that cable used by Japanese research ships never gave any trouble, I became curious about their cable. As I had specialized in ocean biology, I thought it might be misconstrued if I asked about something not related to my speciality, and I hesitated to ask. However, as time went by, we became more intimate, and were better able to understand each other. When I boldly asked about the cable, Professor (Nemoto), chief research worker, and the captain not only unhesitatingly gave me a detailed explanation about the cable samples, together with explanatory notes on which were printed standards, data and markers' names.

The (Hakuho Maru) is an extremely advanced oceanographic survey ship, which carries much advanced equipment, including a satellite guidance system, automatic weather forecast equipment and stabilizers to prevent the ship from rolling and pitching. I was given a detailed explanation about the equipment and the charthouse. And I was also allowed into the engine room, where the general public is not usually allowed, and shown various pieces of equipment there.

CSO: 4106/302

NEW REMEDIES IN CHINA, 1981-1982

Beijing YAOXUE TONGBAO [CHINESE PHARMACEUTICAL BULLETIN] in Chinese No 6, 1983 pp 32-37

[Article by Yao Yinghe [1202 2019 7729] of the Shanghai Medical Industry Research Academy: "Summary Description of New Domestic Medicines in 1981-1982"]

[Text] Last year, this writer changed the once a year discussion of new domestic medicines to a fiscal year discussion, and thus was able to introduce to the reader in the next fixcal year the medicines that had been evaluated but had not been introduced to the reader earlier. Omissions have been reduced, and expected results have been realized.

The number of new medicines introduced this fiscal year totaled 43, including 17 newly formulated medicines and 20 reduplicated medicines. Among the new medicines which passed clinical evaluation this fiscal year were many compound preparations. This article will only selectively introduce six kinds. In addition, this article will not repeatedly report those varieties that have been redundantly developed and produced by different pharmaceutical manufacturers and that have been clinically evaluated, and it will not count them as new varieties.

Antibiotics

Acetylspiramycin (1982, 9; Antibiotics Research Institute of the Chinese Medical Science Academy, Wuxi Second Pharmaceutical Manufacturing Plant)* is a semisynthesized derivative of the antibiotic spiramycin of large-ring internal esters screened and selected in our nation. It is chemically consistent with the acetylspiramycin developed in Japan. External antibiotic experiments show this product has a better antibiotic activity against gram-positive cocci. Internal tests show visible protection in rats infected by aurococci, streptococci and pneumonia diplococci. Absorption of oral dosage was rapid and the concentration in the tissue was high. It

*Figures in parentheses here and in following examples show the year and month that medicine passed evaluation, followed by the developing unit.

It was effective in treating 532 cases of various coccus diseases in domestic tests. It was most effective in treating scarlet fever and festering type infections on the body surface. It was also effective in treating infections of the respiratory tract, acute mastitis, acute lymphnoditis, erysipelas and oral infections. The general effectiveness averaged 89.9 percent, the particular effectiveness averaged 64.1 percent. This product can replace penicillin, erythromycin and such antibiotics to treat certain drug-tolerant strains of bacteria and thus provide an effective medicine for the clinical treatment of certain drug-tolerant cocci infections. This product produces a slight reaction, occasional nauseation, vomiting, loss of appetite and rash [2].

Cardiovascular Medicines

β-methyldigoxin (1982, 8; Hangzhou First Pharmaceutical Manufacturing Plant), i.e., β-methyldigoxin, is a semisynthetic thevetin made from the methylation of digoxin. Compared to digoxin, the oral dosage of this product can be more completely absorbed, reaching 91 to 95 percent, and absorption is regular. There is little accumulation, therefore it is safer. Its effectiveness is more rapid, and it becomes active 10 to 20 minutes after oral intake and 1 to 4 minutes after intravenous injection, Its effectiveness lasts for about 6 days [3]. It was tested domestically in 138 cases of hyperaemic heart failure. The effectiveness reached 94.2 percent with particular effectiveness of 48.5 percent. It was used to treat 12 cases of quick supraventricular arrhythmia with an effectiveness of 75 percent [2].

Metroprolol (1982, 9; Medical Industry Research Institute of Guangzhou City) is a cardioselective β_1 receptor retarder and it has almost no effect on the β_2 receptor. It produced better results in treating light and medium primary hypertension. Its action is mild and safe, its effectiveness is rapid and it persists for a long time. Its blood pressure reducing function may be related to its ability to lower the amount of blood pumped by the heart and to lower the heart rate. When used to prevent angina pectoris, it can reduce the number of attacks and the amount of nitrated glycerin dosage, and it can lower the death rate from coronary heart diseases. This product is rapidly absorbed in the stomach and intestinal tract. The highest blood concentration is reached after 90 minutes. The half life of the plasma is about 3 hours. It has been tested on 271 cases of hypertension and angina pectoris. The general effectiveness is 81.9 percent. Because this product has a more visible effect of reducing the heart rate, it is unsuitable for use by patients suffering from II and III stage retardation of atrioventricular conduction and severe bradycardia [2].

Propafenone (1982, 6; Medical Industry Research Institute of Guangzhou City) is a very new medicine to treat arrhythmia. Experimental studies show this product can prolong the irresponsive period of the atrium node and the atrioventricular node and the ventricle, and heighten the threshold potential of cardiac muscles. It produces visible effects in treating arrhythmia caused by isopotential stimulation or reflection mechanism. Effectiveness begins about 30 minutes after oral administration and reaches

a maximum 2 to 3 hours afterward. It can sustain for about 8 hours. It was used for various types of arrhythmia domestically in 319 cases. It was effective in treating ventricular and supraventricular isopotential pulse, ventricular and supraventricular tachycardia and pre-excitation syndromes, and especially effective in treating premature ventricular and atrial pulse. The general effectiveness was 84 percent and the particular effectiveness was 48.9 percent. Patients suffering from serious heart failure and retardation of atrial and ventricular conduction should be careful in using it [2].

Potassium magnesium aspartate (1981, 1; Fourth Pharmaceutical Manufacturing Plant of Wuxi) is the organic salt of potassium and magnesium. Potassium and magnesium are inorganic ions necessary for the organic body. A deficiency of potassium in cells is closely related to the metabolism of cardiac muscles. Potassium ions can stimulate the depolarization of cells of the muscles and improve contraction of cardiac muscles. Magnesium ions are an activating factor of sodium-potassium-ATP enzymes of the membrane of cardiac muscles. A deficiency in magnesium in cells may be caused by the loss of activity of the sodium-potassium-ATP enzyme. Therefore, magnesium serves an important function in maintaining the content of potassium in cells. Magnesium ions are also indispensable substances for forming glycogen and high-energy organic phosphate. Asparagic acid has a stronger cellular affinity, and it can serve as the carrier of potassium and magnesium ions for them to enter the cells. This product is suitable for treating low potassium in the blood, low magnesium in the blood, various types of diseases due to obstruction of the metabolism of cardiac muscles (angina pectoris, myocardial infarction, etc) and diseases of retardation of cardiac conduction (premature pulse, paroxysmal tachycardia). It often produced better results in treating arrhythmia caused by poisoning from cardiac stimulants such as digitalis. It was used in 163 clinical cases domestically. The general effectiveness was about 85 percent [2,3].

Vitamin E nicotinate (1982, 6; Guangdong Pharmaceutical Plant) may directly act upon the blood vessels, and it can stimulate peripheral blood circulation and increase the amount of blood flow. It is said that this product also can reduce cholesterol, suppress the biological synthesis of cholesterol, stimulate its excretion into the bile and suppress its deposition on the walls of blood vessels. Domestically it was used in 257 cases including hardening of the cerebral artery, hardening of the arteries, external brain injury and its sequela, and central retinitis. The general effectiveness reached 88.71 percent. It was effective against headaches, dizziness which were sequela of cerebral concussion, slight bruises of the brain, and external brain injuries. It was particularly effective in treating the hardening of cerebral artery and central retinitis, and it was also seen to have a definite effect in reducing lipoids of the blood [2,3].

Ilexonin A (1982, 12; Medical Industry Research Institute of Guangzhou City) is a pentacyclic triterpene compound obtained from the succinic acylation of the 18 β-dehydrogenated fumarate extracted from ilex pubescens of the aquifoliaceae. It is a new cardiovascular medicine invented by our

nation. Experimental studies show that this product can resist the concentration of platelets. Its functional mechanism is to increase the cAMP level in platelets by suppressing the cAMP phosphodiesterase, and by suppressing the formation of thrombin A_2. This product can reduce the amount of oxygen consumed by the cardiac muscles in rats and protect cardiac muscles from injury caused by blood deficiency. It also has an anti-inflammatory function. It was clinically tested in 244 cases to treat blood-deficiency-type cerebrovascular diseases. Its effectiveness reached 95.9 percent and its particular effectiveness reached 68 percent. It produced better results in the treatment of 93 cases of coronary heart diseases, 61 cases of central retinitis and 30 cases of diseases of peripheral blood vessels. There was no visibly adverse effects [2].

Qingxintong (1982, 13; Beijing Pharmaceutical Industry Research Institute) is an effective monomer separated and extracted from the leaf of the hairless ilex pubescens of the aquifoliaceae plant. It is another cardiovascular medicine made from the aquifoliacae plant in our nation. Pharmacological tests show qingxintong can visibly dilate the coronary artery, reduce oxygen consumption of the cardiac muscles, improve lesser circulation in cardiac muscles, increase nutritive blood flow in cardiac muscles and dilate the blood vessels in the brain. It was also found to resist concentration of platelets induced by ADP in the domesticated rabbit. It was clinically tested in treating 282 cases of coronary heart diseases. Observation was conducted by the double-blind test in 107 cases. The results show that this product had a general effectiveness of 83.2 percent in treating angina pectoris of coronary heart disease, and the electrocardiograph improvement rate was 36 percent [2]. This product is administered by injection. Its oral preparation still has to be developed.

Aralia bipinnatifida Ginseng injection liquid (1982, 12; Third Pharmaceutical Plant of Wuzhou City, Guangxi) is a preparation made from the dried root of Aralia bipinnatifida of the Araliaceae plant. It mainly contains saponin of Aralia bipinnatifida. It was used in clinical tests of 152 cases of blocking of the central vein of the retina, sequela of diseases of blood vessels of the brain and such diseases of blockage of blood vessels. The effectiveness was 86.2 percent. It was used to treat 199 cases of ocular hemorrhage and hepatitis. The effectiveness was 79.9 percent. No undesirable reaction was observed [4].

Xinle tablets (1982, 8; Guangdong Foshan City Pharmaceutical Manufacturing Plant) is a medicine containing soybean ketoketene compounds. Pharmacological studies show this product can reduce coronary resistance, visibly increase the amount of coronary blood flow and the flow of blood in the brain, and it was also observed to reduce the heart rate, blood pressure, contraction of cardiac muscles and the amount of oxygen consumption. It was used in 281 clinical tests of coronary heart diseases. Its general effectiveness in treating angina pectoris was 89.7 percent and its general electrocardiographic effectiveness was 57.6 percent. It was used in 90 cases of hypertension. Its general near-term effectiveness in reducing blood pressure was 72.2 percent. Its effectiveness in relieving symptoms was 68.5 percent [5].

Huanxin tablets (1982, 3; Qingdao Chinese Medicine Plant) is a compound preparation consisting of 17 Chinese medicines including ginseng, musk, bezoar, and toadcake. Pharmacological studies show that huanxin tablets can dilate the coronary artery, visibly increase the amount of coronary blood flow, and reduce the oxygen consumption of cardiac muscles. It visibly suppresses adhesion of platelets in domesticated rabbits. It was used in clinical tests of 127 cases of coronary heart diseases. Its effectiveness in relieving symptoms of angina pectoris reached 93.4 percent with particular effectiveness constituting 56.6 percent. Its effectiveness in improving the blood-deficient-type electrocardiograph reached 60 percent. Huanxin tablets were studied in comparison with jiuxindan produced in Japan. It was discovered that huanxin tablets produce a more visible result in increasing the amount of blood pumped out by the heart and in increasing the heart index than jiuxindan while jiuxindan is more effective than huanxindan in slowing the heart rate [2,6].

Xinnaokang (1982, 3; First Pharmaceutical Manufacturing Plant of Zhoukoushi Prefecture, Henan) is a medicine to prevent and treat cardiovascular and cerebrovascular diseases made by adding vitiman B_6 to the effective components extracted from the fruit of safflower. Clinical observations of 311 cases showed its effectiveness against angina pectoris reached 85.2 percent. After continuously taking it for 2 to 3 months, it could reduce cholesterol, glycerin triester and β-lipoprotein to within the normal amounts. This product was also tested in 36 cases of cerebral hemorrhage, and sequela of partial paralysis caused by cerebral thrombosis. After 2 to 3 months, improvements were seen in 75 percent of the cases [7].

Prazosin (1982, 5; Sixth Pharmaceutical Manufacturing Plant of Shanghai) is a selective adrenalin α_1 receptor retarder. It can selectively retard α_1 receptors after sudden contact, dilate the blood vessels and reduce blood pressure. It can be used for hypertension of different degrees of severity. Long-term oral intake will not affect the rate of filtration of glomeruli of the kidney, therefore it can be used for hypertension patients with poor kidney functions. Prazosin can simultaneously dilate resistant blood vessels (arteries) and capacity blood vessels (veins), reduce the fore and after load of the heart, improve heart function and, therefore, is suitable for medium or severe hyperemia-type heart failure. The oral dosage takes effect 30 minutes after ingestion and reaches the peak in 1 to 2 hours and the action continues for 5 to 6 hours [2].

Domestically, two research units tested it in 85 cases and 105 cases [2] and 75 and 104 cases [8] of chronic heart failure and hypertension (including persistent high blood pressure). The effectiveness was correspondingly 89.3 percent and 65.6 percent, 73.3 percent and 65.4 percent. An overly large initial dosage could produce "initial dosage reaction" syndromes, and postural hypotension was observed.

More medicines for the cadriovascular system were evaluated this fiscal year, and there were also many types of compound preparations such as quanxinning injection liquid [9], guanshu [10], xinlingwan [11] which will not be introduced one by one here.

Anti-tumorigenic Medicines

Bifuranfluorouracilum, FD_1 (1982, 7; Jinan Pharmaceutical Manufacturing Plant) is the second derivative of fluorouracilum (5-Fu). It possesses latent activity and has more advantages than the first latently active medicine furanfluorouracilum (FT-207). This product quickly decomposes in the body to the intermediate metabolic products 3-FT and FT-207, and then slowly activates to become 5-Fu and serves an anticarcinogenic function. Thus its functional mechanism is entirely the same as 5-Fu, i.e., it can suppress the thymine nucleotide synthesis enzyme, stop uracil deoxidated nucleotide from changing into thymine deoxinucleotide, and thus interrupt the biological formation of thymonucleic acid and cause damage and death to the cells. The advantage of this product is that it can steadily maintain the effective concentration of 5-Fu for a long time. Its chemotherapeutic index is four times that of 5-Fu, two times that of FT-207, and the toxicity is only 1/2 to 1/3 that of FT-207. Its effectiveness of treatment of stomach cancer, cancer of the mammary gland and cancer of the liver is better than that of FT-207, therefore it has been emphasized by many nations. It has been tested domestically in 199 cases of later stage malignant tumors. The general effectiveness was 29.14 percent. In 112 cases of tumors of the stomach and intestinal tract, the effectiveness was 31.26 percent, and the effectiveness of treatment was slightly better than that of FT-207. It characteristic is that its effect of suppressing the bone marrow is small [2].

Gambge (1981, 12; Third Nanchang City Hospital, Jiangxi Pharmaceutical Manufacturing Plant) is the dried resin of the secretion from the Garcinia hanburryi. The gambogic acid and the isogambogic acid contained are effective against cancer. Experimental studies show this product can suppress "I's" (?) ascitic cancer in small rats, S-180, S-37, W-256 and such tumor strains. Externally, it visibly kills human cancer cells and Hela cells. In particular, it does not suppress white blood cells and the hemogenic system. This product was used in a total of 125 cases as an injection liquid to treat skin cancer, cancer of the mammary gland, head and neck cancer, and malignant lymphatic cancer. It produced a definite near-term result. The general effectiveness reached 69.6 percent. The paste of this product was used in 478 cases of cervical erosion. The healing rate was 49.53 percent. The general effectiveness was 95.82 percent and the results were rapid [2, 12].

Cough Suppressant, Phlegm Remover and Medicine for Soothing Asthma

Dioxopromethazine (1981, 11; Dandong Pharmaceutical Plant) is a medicine that can suppress cough and sooth asthma. Animal experiments show it is a strongly effective cough suppressant. Its effect is 6 to 11 times stronger than codeine. In clinical applications, its effect as a cough suppressant was equivalent to that of codeine. This product also has a strong antihistamine function, it can diminish inflammation as well as phenylbutazonum and it has a definite local anesthetic effect. Domestically, it was used in 385 cases of acute and chronic tracheitis and such respiratory tract diseases. Its particular control rate as a cough suppressant reached

74.74 percent. In most cases, it became effective 30 to 60 minutes after intake. Its effect can last for 4 to 6 hours. It was also observed to remove phlegm and to sooth asthma. The double-blind test shows that its effect as a cough suppressant was similar to that of codeine [2, 13].

Brominated isoprypul henbane (1982, 12; Beijing Pharmaceutical Industry Research Institute) is a new asthma-soothing medicine invented in our nation. It is an anticholinergic bronchial dilating agent. Pulmonary function experiments show it has a visible function in dilating the bronchi. The spray of this product was clinically tested in 466 cases. In 200 cases it was contrasted with the highly effective foreign medicine of the same properties, isopryopyl atropine, and it was observed under random double-blind tests. The results show the two medicines are similarly effective in soothing asthma, but this product has a quicker effect than isopropyl atropine. Its function peaks 30 to 60 minutes after inhaling. Immediate effect of treatment was observed in 216 cases. The effectiveness was 84.72 percent. Clinical results also show a good effect in soothing asthma [2] when used for chronic panting type bronchitis and chronic endogenic bronchial asthma.

Birth Control Medicine

Ethyl ester of daphne genkwa (1982, 6; General Hospital of the Wuhan Military Region, Shanghai Medicine Research Institute) is a compound of the esters of diterpene acid separated from the flower bud or root of the daphne genkwa. It is a birth-inducing medicine from a natural source for the middle period of gestation first discovered by our nation and first used clinically. Pharmacological studies prove that this product has a definite birth-inducing effect. Its characteristic is that its birth-inducing time is short, its toxicity is small, and it is safe. Statistics of 333 clinical cases showed that the rate of success of birth-induction when the dosage is 60 to 70 μg/person reached 97.8 percent [14]. This product is still being tested in enlarged clinical tests and is being subjected to further clinical and pharmacological studies.

dl-15(RS)-methylprostaglandine $F_2\alpha$ (1981, 12; Shanghai City 15-methylPGF$_2$ scientific research coordination group) is a highly efficient anti-early-pregnancy and middle-period birth-inducing medicine. Domestically it was used as an anti-early-pregnancy medicine for clinical observation in more than 1,100 cases. The success rate was 90 percent. It was used as a middle-period birth-inducing medicine in more than 700 cases. The success rate was 97 percent. This product can cause serious reactions in the stomach and intestinal tract. Serious diarrhea occurred in 3.3 percent of the patients [2].

Medicines for Mental and Neurological Systems

Pemoline (1982, 12; Shanghai Medical Industry Research Institute) is a stimulant. Its stimulation of the central nervous system is five times that of caffeine, between that of phenylalamine and piperidyl methyl ester, and is a medicine suitable for use to treat restlessness in children (also

called slight imbalance in brain functions). It was test-manufactured following the test-manufacturing of piperidyl methyl ester in our nation. This product and piperidyl methyl ester can both serve as a first-choice medicine to treat restlessness in children. But this product has a slightly adverse reaction, and the effect lasts for a long time. The medicine needs to be administered only once a day. Domestically, it was tested in 208 cases of restlessness in children. The general effectiveness reached 94.2 percent. It is believed that its advantage is that the effect lasts longer. The effect was still seen several days after medication ended. Also the adverse reaction is much lighter than that of piperidyl methyl ester [2]. In foreign nations, it is also used in treating memory blocks in adults, lack of concentration and fatigue due to mental labor. It is said to have a definite effectiveness [15].

Vanilline (1982, 1; Nanjing Pharmacological Institute), i.e., the medicinal product of edible vanilla. It was first used in our nation to treat epilepsy. Pharmacological tests show this product can act against epileptic brain waves induced by amyl tetrazo compounds, it has an anti-epileptic function and has a slight function in suppressing the central nervous system. It was used in 291 cases for clinical observations. In 184 cases, it was used as the only medicine for treatment. In 107 cases, this product was used with other antiepileptic medicines which were not visibly effective. The general effectiveness was 74.2 percent, and the particular effectiveness was 48.8 percent. This product showed a better effect in treating slight occurrences. In the 184 cases treated by this product alone, the general effectiveness in treating slight epileptic occurrences was 86.1 percent, and the particular effectiveness was 57.4 percent. In individual cases, slightly adverse effects such as headaches were observed [2, 16].

Aconitin (1981, 8; Shanghai Medicine Research Institute, Northwest Normal College, Plant Institute) is the biological alkaloid separated from Aconitum sinomontanum Nakai. After evaluation, it was found to be the known lappoconitine. It was used for the first time in the nation as a clinical pain killer. Pharmacological studies show this product kills pain but is not habit forming. It also has a local anesthetic effect and the effect is stronger than procaine and cocaine. Clinical tests were conducted in 385 cases of various types of painful diseases. Of these, 222 cases involved pain due to latter-stage tumors. It was effective when administered as an intravenous drip, intramuscular injection and orally. Its general effectiveness was 87 percent and its particular effectiveness was 49 percent. In some cases, the medicine was administered for as long as 9 months and it was not seen to be habit forming [17].

3-acetyl aconitine (1982, 7; Shanghai Medicine Research Institute, Sixth Hospital of the Liberation Army) is a non-habit-forming pain killer from a plant source. It can also be made by chemical synthesis. Domestic clinical test results show this product can kill most types of pains, and is especially suited as an anesthesia for small wounds and medium and small operations. It can be used to kill pains due to scapulohumeral periarthritis,

cervical vertebra, chronic lumbago and leg pains. It is also effective against rheumatic pains. It was observed clinically in 1,236 cases. The general effectiveness of pain killing was 95 percent. Compared to dolantin, this product is slower to become effective but the duration of effectiveness is long, and side effects are slight, and in particular, it is not habit forming [18].

Nootropic Drugs

Nootropic drugs are medicines of a type that produces many results including increasing memory and improving learning ability. They have been tested and clinically studied for more than 10 years abroad. In recent years, they have attracted the interest and emphasis of medicinal researchers and interest for clinical treatment. Because the use of medicines to improve intelligence undoubtedly is a new field, it has a major clinical significance. The representative of this type of drugs is piracetam (1982, 3; Northeast Pharmaceutical Plant) [2]. Medicines of similar structure still being studied include etiracetam, oxiracetam, aniracetam and medicines of other structures [19].

Pharmacological studies show piracetam can stimulate the utilization of phosphatides and amino acids by the brain, and increase the synthesis of protein in the brain. In several types of learning models, it showed the function of increasing learning ability and memory. It can stimulate the transmission of information in the cerebral hemisphere, increase the control of the subcortical structure by the cortex; increase resistance to attacks on the brain, and lessen brain damage caused by various types of oxygen deficiency in the brain and by physical and chemical factors [2, 19]. The oral dosage of this product is rapidly absorbed and reaches the highest blood concentration after 30 minutes. It is widely distributed in the tissues and the organs, and it can penetrate blood and brain shields and the placental shield. Piracetam was tested domestically in 134 cases of cerebroarterial schlerosis and memory and thinking hindrances caused by cerebrovascular accidents. The general effectiveness was 80 percent and the particular effectiveness was 20 percent. At the same time, it was observed in 52 cases of comparison using the double-blind test. Separate tests were conducted in emotional and intellectual ability, image recall, visual re-recognition, associated memory, understanding memory and memorization of numbers. Except visual re-recognition, it showed visible differences when compared to the control group of comforting agents in other tests. This showed this product can visibly improve memory. It was used to treat 80 cases of intellectually retarded children. The general effectiveness was 63.8 percent and the particular effectiveness with 13.8 percent. It was used in 53 cases of memory block caused by external injuries to the brain and 22 cases of dementia caused by encephalosis. It was also observed to realize a definite improvement. In addition, this product can be used to treat brain damage caused by medicinal poisoning as well as thinking and memory blocks caused by carbon monoxide poisoning [2].

Piracetam has been tested and clinically studied for more than 10 years, but there is still debate over the effectiveness of this product even today.

Many researchers reported that this product produced results in treating brain damage, blood deficiency in the brain, chronic incomplete functions of the brain, but some other people have also reported that this product does not have any visible effect in treating psychological functions [19]. This writer has studied these documents and believes piracetam has a definite effect in stimulating the restoration of memory, and nootropic drugs will undoubtedly develop to form a new type of drugs [19].

Medicines for the Digestive Tract

Scopolamine butylbromide (1982, 6; Medicine Research Institute of the Medical Science Academy) is an anticholine of peripheral function, and its effect on the central nervous system is weak. It is stronger than atropine and 654-2 in spasmolysis of the smooth muscle of the stomach and intestine. Its action on the sweat gland, the pupil, the salivary gland and the heart is is very weak, equivalent to 1,1000, 1/100, 1/50 and 1/30 of atropine. Therefore its side effect is slight. This product also has a strong function in blocking ganglions. In intravenous injections, it can cause orthostatic hypotension. It becomes effective quickly, 2 to 4 minutes after intravenous injection, 8 to 10 minutes after hypodermic injection or intramuscular injection, and 20 to 30 minutes after oral administration. Its effect persists for 2 to 5 hours. It is suitable for treating convulsions in the stomach and intestinal tract, bile duct, urethra and the uterus [20]. It was tested domestically in more than 3,000 cases and endoscope examinations of the stomach, the duodenum and colon. It produced satisfactory results when used prior to and during surgery for reverse endoscopic radiography of the pancreas and biliary duct [2].

Silybin (1981, 12; Nanjin Pharmaceutical Academy, Zhengjiang Prefecture Pharmaceutical Plant) is the main ingredient extracted from the seeds of silybum marianus to treat hepatitis. The ketoketene silybin (silybin) extracted from the silybum marianum has already been produced domestically. Silybin is the main effective element in kekotetene silybin. Its pharmacological function is similar to ketoketene silybin, i.e., it can fight damage to the liver caused by many substances toxic to the liver in animal experiments, such as carbon tetrachloride, and it protects the liver. It can fight necrosis of cells, reduce fat denaturation, suppress the increase in glutamic propul transaminase, and protect liver cells [20]. The water soluble derivative of silybin, silybin-N-methylglucamine, has been clinically tested to treat chronic hepatitis, 201 cases of which were chronic interstitial hepatitis. The general effectiveness was 73.1 percent, and the particular effectiveness was 53 percent. In treating 55 cases of chronic active hepatitis, the general effectiveness was 80 percent, and the particular effectiveness was 47.3 percent. In the followup visits 16 to 24 months after treating 62 cases with visible results, 59.4 percent retained visible results, conditions of 17.7 percent of the cases fluctuated but still maintained the level of effectiveness without seeing any adverse reactions [21].

Immunity Strengthening and Suppressing Agents

P-placental lipopolysaccharide (1982, 8; Changzhou Dongfeng Hospital, Changzhou Biochemical Pharmaceutical Plant) is the lipopolysaccharide extracted from the pulverized placenta of the pig. Its pharmacological function and clinical uses are the same as the lipopolysaccharides of the human placenta [22]. It was clinically tested in more than 500 cases, and it was contrasted with the lipopolysaccharide of the human placenta by the double-blind test. The results show this product is similarly effective in treating chronic bronchitis as the lipopolysaccharide of the human placenta and better than nuclear casein [2].

Laoshan Xiangyun tablet (1981, 7; Biology Department of Nanjing University, Jiangshu Laoshan Pharmaceutical Plant) is the polysaccharide extracted from the mycelium hyphostroma by fermenting lentinus edodes and dolystictus versicolor. It increases immunity, but compared to the polysacchride made from lentinus edodes or dolystictus versicolor alone, it does not seem to have any advantages. This product is effective in the treatment of chronic interstitial hepatitis when tested clinically, and has a definite effectiveness in treating chronic active hepatitis. It can also be used in auxiliary treatment of cancer of the liver, tumors in the digestive tract and leukemia [23].

Antilymphocyte globulin ALG (1981, 5; Wuhan Biological Preparations Research Institute) is an antilymphocytic globulin prepared by using human lymphocyte as the immunoantigen to make pigs immune. It is a strongly effective suppressant of cellular immunity. It does not directly suppress B cells or body fluid immunity. The mechanism of immunity suppression of this product is cytolysis of the lymphocytes with the help of complements. Some cause "obstructive blindness" of the lymphocyte and block the antigen-recognition part, and thus stopping it from discovering target cells [24]. ALG's characteristic is that it is nontoxic to the bone marrow. This product can be used in organ transplants to suppress immunity rejection. It is mainly effective during the acute rejection period. It has a visible effect in treating self-immunal diseases such as nephritis, lupus erythematosus and rheumatoid arthritis. Domestic clinical tests were conducted in nine cases of acute aplastic anemia. It visibly reduced such symptoms as bleeding and infection when this product was administered by drip injection without using massive blood transfusion or while blood transfusion was not used. The hemogram improved [24, 25].

Tripterygium (1982, 2; Skin Disease Research Institute of the Medical Science Academy, Nanjing Pharmacological Academy) is the effective element extracted from the peeled root of the tripterygium wilfordii Hook. f. Pharmacological studies show it has a strong anti-inflammatory and immunity-suppressing function. It was clinically tested in 554 cases. The results show it is visible effective for certain self-immunity diseases and allergic skin diseases. Its particular effectiveness in rheumatoid arthritis was 55 percent, and its effectiveness reached 93 percent. Its particular effectiveness was 75 percent in treating primary and successive occurrence of syndromes of kidney diseases in children. Its particular effectiveness

reached 76 percent in subacute and chronic symptomatic hepatitis. In addition, its results were better in treating leprosy reactions, Besel's syncrome, and allergic skin diseases. The value of this product is that it can be used on patients unsuited to cortical hormones or patients tolerant and dependent upon such medicines [26, 27].

Tripterygium tablets (1982, 6; Second Shanghai Chinese Medicine Manufacturing Plant, Shanghai Huashan Hospital) is also a medicine with an immunity-suppressing function made from the effective elements of tripterygium wilfordii. It was clinically tested in 144 cases of lupus erythematosus, 128 cases of rheumatoid arthritis, 34 cases of Besels' disease and other collagen diseases. The general effectiveness was, respectively, 87.5, 88 and 85 percent. In addition, it has a definite effect in treating nephritis [28].

Antiphlogistic and Pain-killing Medicines

Fenbufen (1982, 12; Henan Provincial Medical Industry Research Institute) is a new dephlogistic and pain suppressant. In recent years, its use abroad has increased. It is a precursor medicine. It metabolizes in the body to form diphenyl acetic acid. The latter can suppress the synthesis of prostaglandin, and produce a dephlogistic effect and suppress pain. Its effect is stronger than aspirin and weaker than sizoyantong. It reaches the peak blood concentration 2 hours after oral intake. Its half life is about 12 hours. It was used domestically in clinical tests in 625 cases, including 217 cases of rheumatoid arthritis. The effectiveness was 80 percent. In 130 cases of rheumatic arthritis, its effectiveness was 91.5 percent [2]. Because this product is less irritating to the stomach and the intestinal tract, there were no visibly adverse reactions of the stomach and the intestinal tract. Its effect is longer, and its effectiveness is quick, therefore, it is still a better medicine among the many dephlogistic and pain killing medicines at present.

Liuanshuang (1981, 11; Jiangsu Medical Industry Research Institute) is an externally applied medicine made mainly from salicylic acid diethylamine. Pharmaceutical studies show this product has a visible dephlogistic and pain-killing function. This product is easily water soluble, has a high permeability, and easily enters the circulatory system to develop its dephlogistic and pain-killing function. Domestically it was tested in more than 300 cases to treat pain caused by acute and chronic arthritis, neuralgia, soft tissue damage, and dropping of occipitalis (?). The effectiveness was 83 percent. This product does not irritate the skin [29].

Bufexamac (1981, 12; Guangzhou Medical Industry Research Institute) is a nonsteriod dephlogistic and pain killer. Its 5 percent gel is effective for certain skin diseases. It is said that its effectiveness is only slightly weaker than that of dexamethasonum and queyanshusong. Its 5 percent gel or cream was used domestically to externally treat 424 cases of eczema, dermatitis, digital and palmar keratodermia and other skin diseases. It cured 70 cases, basically cured 56 cases, was visibly effective in 90 cases, was effective in 145 cases, and it had a general effectiveness of

85.14 percent and a particular effectiveness of 50.9 percent. In a few cases, reddening of the skin, rash and swelling and such reactions occurred after application [2].

Antiparasitic Medicines

Methylether of Artemisia (1981, 1; Shanghai Medicinal Research Institute) is the derivative of the antimalarial medicine artemisin, i.e., methyl-reduced artemisin. It is a new highly effective, rapidly effective and low toxic antimalarial medicine invented in our nation. Methylether of artimisia is a schizont killer during the inner period of the red cells of plasmodium. It is definitely effective in treating malignant malaria (including effectiveness against chloroquine strain). The average fever reducing time was 26.8 hours. The average time for the plasmodium to change negative was 36.3 hours. It is reliable in treating emergency risky malignant malaria. It was clinically tested in 829 cases of malignant malaria and 259 cases of tertian malaria. Clinical healing reached 100 percent, side effects were small and the flareup rate was low [2]. The successful development of methylether of artimisia is an important achievement in our nation's studies to find a new anti-malarial medicine.

Medicine to Treat the Blood and Hematogenic System

Viper Antithrombotic enzyme (1981, 8; Shenyang Pharmacological Academy et al) is an enzyme preparation made from the separation of the venom of the pallas pit viper of Snake Island. Its main ingredient is arginine lipase. Pharmacological studies discovered that this product can reduce the viscosity of blood and improve lesser circulation. It can resist the function of platelets, reduce the count of platelets and suppress their concentration. This product was used in 293 cases as an intravenous drip to treat diseases of clogged blood vessels. Results were visible. It was compared to the low molecular dextran in random groups to treat 50 cases of cerebral thrombosis. The effectiveness in the group treated by this product reached 90 percent. The effectiveness in the group treated with low molecular dextran was 68 percent. Better results were realized in treating thrombosis-clogging-type vasculitis, aortitis, venous thrombosis, and high coagulation diseases. Some individual patients who used the medicine suffered from subcutaneous extravasated blood, therefore it must not be used on patients of cerebral hemorrhage or patients who have a recent history of cerebral hemorrhage and patients with bleeding tendencies [30, 31].

Huncus hemostatic syrup (xuedekang) (1981, 12; Hubei Provincial Medical Industry Research Institute) is a hemostatic compound preparation made mainly from huncus setchuensis Buchen and agrimonium pubescens and acalypha australis L. It was clinically tested in 219 cases of various types of bleeding diseases. The general effectiveness reached 92.02 percent. Clinical studies show this product not only stops bleeding, it is also a dephlogistic and it causes contraction. It also increases platelets and stimulates the function of coagulant zymogens [2, 32].

Other Medicines

Potassium-reducing resin (1982, 9; Shanghai Medical Industry Research Academy) is a cation-exchange resin. It can exchange and adsorb potassium ions in the intestinal tract and allow them to be excreted with the stool and thus reduce the level of potassium in blood. It can be used to treat diseases of high blood potassium due to various causes, especially high blood potassium disease during chronic weak kidney function. An overly high potassium content in blood can stop the heart beat. This is the main cause of death among patients of kidney failure. Although high blood potassium disease can be treated by roentgenoscopic analysis, due to the lack of equipment and such conditions, only a few hospitals can use this method. Therefore, the development and clinical application of this product have provided a simple means of medicinal treatment of high blood potassium disease due to kidney failure. It has an important clinical significance. Domestically it was tested in 60 cases of high blood potassium disease caused by various causes (>5.5mEq/L). After treatment, the level of blood potassium in 59 cases showed varying degrees of reduction. In 34 cases, the results were visible. The scale of the drop in the blood potassium level was >1.0mEq/L; it was effective in 19 cases, and the scale was 1.0mEq/L; it was effective in 19 cases, and the scale of the drop in level was 0.5 to 1.0mEq/L. This product can be taken orally or administered in the rectum. The dosage is 15 to 30g per dose, twice a day. Such a dosage can mostly lower the blood potassium level satisfactorily. When the blood potassium level drops to 4.5mEq/L, medication can be stopped [2].

Kylliga concoction (1981, 11; Nanjing Chinese Medical Science Academy, Nanjing Tongrentang Pharmaceutical Plant) is made from the entire plant of the Kyllinga brevifolia of the cyperaceae plant. It contains kyllinga brevifolia ketoketene glucoside I and II and volatile oil components. The use of kyllinga brevifolia to treat chyluria comes from a folk remedy. The concoction in boiling water was used in 121 cases of chyluria and chyle hematuria. In 87 cases, the patients were completely healed. The near-term general effectiveness was 94.1 percent [33].

Acorus gramineus injection liquid (1982, 6; Chinese Herbal medicine Research Laboratory of the Shanghai City Herbal Medicine Company et al) is made from the effective component of the volatile oil of acorus gramineus. It was clinically used to treat 279 cases-times of pulmonary brain disease. It produced visible results in 128 cases-times, improvements in 81 cases-times, and the general effectiveness was 74.97 percent. This product produced visible results in reducing obstruction of consciousness, psychoneurological symptoms and as a dephlogistic. It was also observed to suppress coughing and sooth asthma and relieve cyanosis symptoms [34].

Yinmi tablets (1982, 11; Fungus Research Institute of the Sanming Prefecture in Fujian) is a compound preparation made from an equal amount of the base of tremella, which has a consolidating function, and the powder of ring bacteria, which can invigorate the blood. Pharmacological and clinical studies show this product can reduce coronary resistance, increase the amount

of blood flow in the coronary arteries, slow heart beat, suppress concentration of platelets and resist thrombosis, and increase the immunity of the organic body. After some chronic bronchitis patients used the medicine, the percentage of formation of E rosette and lymphocytic conversion rate visibly increased. This product was used in 289 cases of coronary heart disease. The general effective in treating angina pector was 84 to 86 percent, the general effectiveness in the electrocardiogram was 53 to 60 percent. It was used in 659 cases of chronic bronchitis. The general effectiveness was 74 to 93 percent [35].

In this fiscal year, there were two externally applied medicines that were clinically tested and evaluated. One was xiaozhongqutongling (1982, 12; Tianjin City Chinese Medicine Research Institute et al), an externally applied medicine consisting mainly of paris polyphylla and effective in treating swelling and pain in the joints and pain due to sprain and bruises [36]. The second was shaolinqufengzhitongsan (1982, 8; Luoyang Minsheng Pharmaceutical Plant), a powder, applied hot and externally, made from many kinds of Chinese medicinal herbs including acontium chinese Paxt. dengjiahgshi, carthamus tinctorius etc. It has a definite effect in treating wandering arthritis and fatigue and injury of the bones and muscles [37].

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PROGRESS IN TREATMENT, RESEARCH ON BURNS BY PLA

Beijing JIEFANGJUN YIXUE ZAZHI [MEDICAL JOURNAL OF THE CHINESE PEOPLE'S LIBERATION ARMY] in Chinese No 3, 1983 pp 226-228

[Article by the Armed Forces Group Specializing in Burns: "Progress in the Treatment and Study of Burns Over the Past Two Years in the Armed Forces"]

[Text] Clinical Treatment

Over the past 2 years, the medical treatment units of the armed forces actively carried out the work of clinical and emergency treatment of burns and realized better results. The 304 Hospital successfully provided emergency treatment simultaneously in two cases of patients suffering from burns over more than 90 percent of their bodies and third degree burns over 70 percent of their bodies. The First Subsidiary Hospital of the Second Military Medical University cooperated with the worker's hospital of the Quzhou Chemical Plant in Zhejiang and simultaneously and successfully cured two cases of patients with burns covering 100 percent of the body and with third degree burns, respectively, covering 92 percent and 94.5 percent.

The 202 Hospital treated and cured one case involving a child suffering from burns covering 85 percent of the body with third degree burns covering 64 percent. Many units also successfully rendered emergency treatment to patients suffering from severe burns accompanied by complications of multiple internal organs.

The medical universities of the Second, Third and Fourth Armies compiled statistics on all cases of the past 20 years and more and obtained a general survey of treatment. The Lanzhou and Wuhan units respectively analyzed and summarized those cases of subsidiary units involving death of the victims.

Statistical and clinical data on the effect of treatment of severe burns all show the standard of treatment of burns among our armed forces has improved.

Clinical and Experimental Study of Shock and Burn Victims

In antishock treatment of burn victims, we have always advocated early fluid infusion and emphasized fluid infusion during the first 8 hours. Clinical

and experimental study of the past 2 years all proved that the peak loss of body fluid due to percolation from the burns can occur within 2 hours after injury, therefore early and rapid fluid infusion within 2 hours after injury have been more prominently emphasized, and the effect of delayed treatment has been poor. The Third Military Medical University proposed that the amount of fluid infusion should be 2ml/kg/% (area of burn) during the first 24 hours and 1.5ml/kg/% (area of burn) during the second 24 hours. The Second Military Medical University conducted experimental studies and clinical observations in using a high-expansion solution aimed at treating delayed shock. It believed that this method of treatment used less fluid infusion, conserved colloidal fluid, produced more urine and lessened edema. The 91st Hospital used henbane to resist shock and reduced edema and improved circulation.

The study of the basic theory of shock due to burns is being gradually deepened and methodology is gradually being replaced. For example, a centrally inserted tube is used to develop the study of blood-flow dynamics the laser Doppler microscope is used to study circulation in the membranes of the intestinal system of burned animals. The heart-strength ring is used to study changes in the heart function after suffering burns. In the study of the endocrine of nerves, the Second Military Medical University used the radiation immunization technique to study the changes in the receptors of glyco-cortical hormone. This work and similar research work abroad were almost simultaneously reported.

In general, theoretical research has provided new means of research and goals for the future, deepened the study of the mechanism of shock after burns, and provided a theoretical foundation for the improvement of treatment. Shock due to burns provides the opportunity for key treatment during the early stage following burn injury, and it is also a question that has an overall character in the entire course of sickness. If treatment is not administrered in time, it is difficult to achieve any result in treating shock, and many types of complications of internal organs easily occur. In emergency treatment in war, emphasis on fluid infusion in the early stage and on actively preventing delayed shock have not only been new advances in the study of shock due to burns in the past 2 years, they are also the direction of in-depth research work in the future.

Burn Injuries of the Respiratory Tract

For 2 years, experimental studies of burn injuries of the respiratory tract have been continuously carried out. By examining the blood dynamics, analyzing air in the blood, examining the amount of water in lungs and by pathological examinations of laboratory dogs, it was observed that the use of the commonly used formula for fluid infusion during the early stage of burns would not increase pulmonary edema. Therefore, the concept of limiting the amount of fluid infusion for patients with burn injuries of the respiratory tract is not necessarily correct. The functional failure of respiration which is a complication of burn injuries of the respiratory tract, its clinical and pathological characteristics are all similar to ARDS of injured adults. Besides damage due to inhaling, early shock

and subsequent infections may be important reasons. In studying the mechanism of occurrence of pulmonary edema following burn injuries of the respiratory tract, it was observed that the content of histamine in the lung tissue dropped, and the content of histamine in the blood in the left ventricle of the heart increased. The content of 5-HT in the lung tissue and in the blood dropped, and the content of prostaglandin (PGE_1) in the lung tissue increased. Pathological examination found that hypertrophic cells shed granules, preliminarily indicating that early pulmonary edema of burn injuries of the respiratory tract and the release of histamine of hypertrophic cells and PGE_1 are related. Following this type of injuries in dogs, the total complement and the bypass hemolytic activity dropped, and allergic toxins in the plasma increased, showing that the complement system had served its function. The content of cAMP in the plasma and the tissue cells and the ratio cAMP/cGMP increased. They suppressed the secretion of chemical media. It is very possibly a reaction within the body to control inflammation. Light scope and electron-scope examinations show that besides the pulmonary media and edema of bubbles in lungs, interstitial edema of the cells of cardiac muscles was also discovered. The latter may be the cause of blood deficiency in cardiac muscles.

Infection and Immunity

Analysis of the statistics of 9,329 cases of burn patients at the Second, Third and Fourth Military Medical Universities showed that infection was still the main cause of death among burn patients. Those who died of infection constituted 51.87 percent. The pathogenic bacteria of infection of burn injuries have become more complex. The Third Military Medical University reported that, at present, the commonly seen pathogenic bacteria of intrusive infections are four types of gram-negative bacilli (blue-pus, prodigiosus serratia marcescens, Klebs, colon) and four types of gram-positive cocci (aureus staphylococcus, albus staphylococcus, faecalis streptococcus, streptococcus). Compared to the 1960s, there has been a greater change in sensitivity to medicines. The 127th Hospital reported that the main pathogenic bacteria of the infection in the rural areas of southern Anhui were blue-pus bacilli, aureus staphylococci and colon bacilli, but the sensitivity to antibiotics was higher than those in the cities. These data must be exchanged at fixed times, but bacteriological classification should best uniformly follow the new method of classification commonly used internationally to facilitate contrast and comparison. Some pathogenic bacteria have often been overlooked in diagnosis because the doctors do not have a uniform understanding and means of supervision. Information on infection by anaerobic bacteria was reported for the first time at this conference. Two cases of anaerobic septicemia had already been found in 19 cultures of anaerobic bacteria in blood for 10 cases, and 12 types of anaerobic bacteria have already been determined in surface wounds from burns. The means of monitoring mold infections cannot adopt to the demands of early diagnosis. The method of cultivating mold on strips of tissue introduced by the Third Military Medical University was more sensitive than ordinary culture and live pathological examination. In blood diseases due to intracellular toxin from burns, a method of testing

trace amounts of extravasated blood was developed and it can conserve the amount extravasated blood required. The method is simple but further observations are needed in determining its specific and unique character. In immunization against infection, the hemolytic activity of the whole complement in serum, bypass hemolytic activity and changes in C_3 were dynamically observed. The results showed that the activity of the complement visibly dropped during the early stage of burn injuries, and then gradually revived and rose. The whole complement and the changes in C_3 are related to the seriousness of the injury.

To develop epidemiological surveys and immunization treatment, several units have conducted work to categorize blue-pus bacilli and aureus staphylococci. In the categorization of blue-pus bacilli, the standard serum prepared by the Chengdu Biological Preparations Research Institute was used. The categorization rate could reach 90 to 95 percent. Categorized data show each unit may have epidemic bacterial strains and the drug resistance is generally higher. The Chengdu Biological Preparations Research Institute has already made human plasma immune to blue-pus bacilli and immunoglobulin for humans and horses. They are being clinically tested. It is hoped that a new path can be opened up for passive immunization against blue-pus bacilli.

In disinfection and quarantine, the foremost problem that should be noted is limiting the movement of personnel and the prevention of infection by contact. Some units surveyed the environment of areas of diseases of burn injuries. Blue-pus bacilli were more concentrated in mops and on faucets in public bathrooms. Transmission by air was not obvious. Aureus staphylococci could be found in air but they are still mainly transmitted by hand contact. Some units installed vertical stratified flow isolation chambers and conducted spraying experiments for disinfection. The rate of purification of bacteria in the air could reach 97.9 to 100 percent.

Treatment of the Surface of Wounds From Burns

The timely and appropriate treatment of the surface of wounds from burns is very important in saving the patient's life and reducing permanent disability. For large area and deep burns, early cutting (scraping) of scabs is still used. Good results have been realized. After cutting (scraping) the scabs, in many cases, large liquified nitrogen skin or fresh pig skin have been used to cover the surface of the wounds. In some cases, large pieces of skin from another source and with holes, pig skin or artificial skin have been used to cover the web skin grafted from the patient's own body. The results showed that the first method was better than the latter two methods. Compared to the past method of inlaying skin with holes, surgical operations have been simplified, and the duration of the operation has been shortened.

Medium- and small-area burns mostly occur on the head and face, the hands and the feet. Permanent disability may be created if the burn injuries of these functional parts are not treated properly. Even with multiple plastic surgeries, it is difficult to restore them. The patient feels pain

and the burden upon society is increased, therefore the treatment of such injuries must be emphasized. The 202 Hospital introduced its experience in early cutting (scraping) of scabs of medium- and small-area deep burns. It believed the earlier the operation is performed the better. This can reduce the chance of infection, and the grafter skin can become alive easily. The electric needle and the reaction of contraction of the muscle was used to determine whether it was alive or dead and whether the muscle should be saved or removed. In the treatment of deep burns of the hands, The Fourth Military Medical University proposed dividing the hand into four areas--the back of the hand, the thenar area, the palm, and the back of the fingers, and proposed plans for the treatment of different degrees of burns of the hand. For example, in treating burns on the back of the fingers when the injury has reached the bones when the joints between fingers and the bones of the fingers are exposed, forceps are used to remove the cortex of the bone to expose the bone marrow cavity and then skin is grafted to close the wound surface and to retain the exterior shape and function of the hand. This method is simple and easily done and is worth popularizing. Some writers emphasize that when cutting (scraping) the scab from the back of the hand, the healthy subcutical tissue should be retained as must as possible. This does not affect the growth of the skin. After operation, the function and the exterior shape of the hand are good.

Burns of the perineum should be treated by the exposure method to keep the surface of the wound dry and to promote healing under the scab. Attention should be paid to cleaning the body after defecation and urination. In burns of the anus, emphasis should be on enlarging the anus during the early stage to prevent it from narrowing.

In treating the residual surface of the wound after serious burns, the Fourth Military Medical University conducted clinical and pathological observations by treating 12 cases of residual surfaces of wounds. It discovered that the epithelial cells festered and were lost, the fragmented epithelial cells were swallowed by compound granule cells. The layer of epithelial cells on the edge of ulcers thinned, there were many sweat glands in the deep part and remnant strands of hair were occasionally seen. The sweat gland ducts became the starting point for the growth of the epitheliu. Combined with other treatment, the epithelium of the sweat gland in the deep part of the granular tissue enlarged and grew and caused the injured surface to heal. The general hospital of the Beijing units used 0.04 percent of peroxy acetic acid and the Second Subsidiary Hospital of the Fourth Military Medical University used laser to treat the residual injured surface and also realized definite results.

Many units conducted experimental studies and clinical observations to find out how to prevent infection of the injured surface due to burns and to promote healing of the epithelium. The Second Military Medical University studied the external use of silver pyrido-pipecolic acid and silver nicotinic acid and realized good results in treatment. The Norman Bethune International Peace Hospital selected the Chinese herbal medicines phellodendron, sophora subprostrata and anemarrhena asphodeloides which have a stronger resistance towhite rosary bacteria. They were used clinically

and results were realized. The 262 Hospital used 20 percent gypsum paste and added small amounts of zinc oxide or SD-Aq powder into the gypsum to separately conduct bacteria suppressing tests of aureus staphylococci, blue-pus bacilli, colon bacilli and bacilli proteus vulgaris. As a result, the effects of gypsum paste and SD-Ag powder were the same, but gypsum with small amounts of metallic salt added to it had an increased bacteria-suppressing ability. Animal tests showed that in contrasts between wound on the same body, the time for healing when treated by gypsum and medicines containing metallic elements was faster than simply using SD-Ag.

Many units conducted physical therapy and pathological treatment as early as possible after the injured surface of burns healed to stimulate the restoration of physical functions and used elastic bandages to increase pressure and to prevent the increase of scars. Visible results were realized.

Preservation and Grafting of Skin

The Fourth Military Medical University conducted experimental studies of cultivating epidermic cells and grafting. It used pancreato-proteinase to separate the epidermic cells of the newly born white rats and innoculated the cells onto a thin plastic film for cultivation. The cells could enlarge 10 times in 4 to 7 days. They could continue to grow and differentiate on the surface of wounds on animals and develop into multiple layered structures similar to normal epidermis. This has provided a new direction in the cultivation of human epidermic cells and expanding the supply of skin from one's own body.

The Second Military Medical University used pentadialdehyde skin softened by pancreato-proteinase. The time of adhesion was a two to three times longer than the control group, and softness and shape were good. Observation of the tissue section after grafting showed granules of the injured surface of the receiving skin could grow into it, there was no soaking by lymphocytes, but in small-scale clinical use, it was found that there was a definite occupational character.

The Surgical Center for Wounds of the Advanced Studies Academy for Military Doctors use a -80°C low-temperature refrigerator as the temperature-reducing container to further improve the quality of skin stored in liquid nitrogen. The speed of temperature reduction of the skin was 1 to 3°C/minute, better than the reduction of temperature using ice (4.4 to 10.1°C/minute), and the vitality of the skin also improved. At the same time, it also pointed out that skin with hypodermis attached should be soaked in 0.1 percent of xinjieermie for 15 minutes and thin and medium-thick skin should be soaked in 0.05 percent of xinjierrmie for 15 minutes. The amount of bacteria can be reduced to 3 percent of the number before sterilization. Using this method of sterilization, it is not possible to completely kill all bacteria in the skin, therefore, they emphasized the importance of shaving, washing and brushing and using appropriate antibiotics to soak the skin before treating the skin.

In the study of prolonging the results of the same type of skin and different types of grafted skin, the Second and Third Military Medical

Universities both believed that the living time of skin can be extended most visibly by treating it externally with FA, and they believe that the function of FA is mainly to locally suppress and delay rejection by the host.

Treatment of Complications of Internal Organs

Failure of the function of multiple organs after severe burns has gradually been emphasized. The Surgical Center for Wounds of the Advanced Study Academy for Military Doctors and the Third Military Medical University combined their own experience and lessons and proposed diagnostic standards and principles of treating functional failure of such organs as the lungs, heart, kidneys, liver, and stomach and intestines. They believe shock and infection are major inducing causes. Therefore, preventing shock and controlling infection are the key to preventing functional failure of multiple organs and reducing the death rate. The changes in the function of the liver must not be neglected.

The measurement of the value of the excreted portion (FE_{Na}) of sodium filtered by the kidneys of the patient of severe burns is a simple and sensitive method to measure kidney function. It is worth recommending for trial use. The Third Military Doctors University observed the change in shape of specimens of kidneys of patients of 17 cases who died from severe burns. It believed the determination of whether the kidney functions were obstructed is mainly determined by the degree and range of pathological change of the glomeruli of the kidney. Damage to the kidney ducts is secondary.

The Military medical Science Academy observed the metabolic changes in the copper-blue protein, iron-transporting protein, copper and iron in the serum of large white rats with burns over 20 percent of the body. After suffering burns, the tryptophane in the plasma visibly dropped, and it worsened as the area of burns increased. It was unrelated to the amount of food eaten. The temporary rise in tryptophane in the tissue was caused by the increase in decomposition and metabolism after sustaining injury. In supplementing amino acids after injury, whatever is lacking should be supplemented. Treating all cases the same way cannot be done.

Burns of Children

The 127th Hospital, the 13th Hospital and the General Hospital of the Jinan units combined analysis of the cases of treating infants injured by burns and proposed the characteristics and points of attention concerning burns of children.

In treating the injured surface of specially severe burns on children, the 254th Hospital proposed preserving the scab until the condition has been stabilized and then removing the scab for skin grafting. The 213rd Hospital used the method of preserving the scab to treat two cases of children suffering from especially severe burns combined with the destruction of many rib bones and realized good results.

Compound Injuries

Much work has been done in the past 2 years to study the comprehensive effects, hemogenic function, immunization against bacteria, biochemical metabolism and pathological changes of compound injuries from burns and blasts and compound injuries from radiation and burns. After suffering from burns and radiation, the death rate can be greater than the sum of the death rates from the two single injuries. The death rate of dogs after being subjected to 200 rad of radiation was 31.3 percent. The death rate from second degree burns over 30 percent of the body was 9.1 percent, and the death rate of the compound injuries reached 100 percent. The change in the hemogenic function of compound injuries from radiation and burns is more severe than the suppression of this function by simple radiation sickness, and obstruction of the red blood cell system is more pronounced. Experiments with large rats proved anemia during compound injuries from radiation and burns is macrocytic low-chromatophorous anemia. The dry cells of the red blood cell system and cells with the ability to divide are suppressed, iron participation and metabolism of hemoglobin are interrupted, the half life of red cells is shortened. Infections after compound injuries have also been seen to worsen. It was also discovered that the meganuclear cells of the bone marrow degenerate in a pronounced manner after injuries from burns, blasts and combination burn blasts. Also it was discovered that neutrophile granulocytes participated in the spontaneous phagocytosis of the organic body, called the "swallowing of meganuclear cells of the bone marrow." It is believed that these changes in the meganuclear cells are the important reasons for the drop in quantity and quality of peripheral platelets.

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9296
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FIRST ARMY SYMPOSIUM ON IMMUNOLOGY CONVENED IN BEIJING

Beijing JIEFANGJUN YIXUE ZAZHI [MEDICAL JOURNAL OF CHINESE PEOPLE'S LIBERATION ARMY] in Chinese No 5, 1983 pp 394-395

[Article by Liu Jingyi [0941 7234 0308], Li Chengwen [2621 2052 2429] and Cai Longrong [5591 7893 2837]: "A Summary of the Papers Presented to the First All-Army Symposium on Immunology"]

[Text] The First All-Army Symposium on Immunology was convened in Beijing on 5 December 1983. Participating in the symposium were 105 representatives from 55 units of the Army's scientific research system, military medical academies and hospitals.

A total of 318 papers and summaries on special topics were received, of which 95 were read and discussed in the general or group meetings. The papers range from explorations in basic immunization theory to clinical immunization practices. A few new immunization techniques have been established and some new vaccines and reagents have been trial-manufactured. Many items address special Army characteristics and explore the changes in organism immunocompetence under conditions of combat readiness and combat injuries. Measures for the prevention and treatment of diseases frequently occurring in the Army were discussed, thus giving much impetus to the Army's medical research in immunology.

1. Explorations in Basic Immunization Theory

Addressing the Army's needs and characteristics, the military medical colleges and military medical research units have conducted the following independent research: the effect of body surface and respiratory tract burns on the function of adrenocortex and on the changes in the composition of serum complement; the mechanism for prolonging the survival period of grafted demalia by hydrofluoric--acidesters (?) [8636 8641 2646 6818 6808 7927]; explorations in the immune suppression regulator in pig thymus gland peptide and the antitransplanting resistance function of biosuppressant; research on manufacturing the anthrax protective antigens, immunization mechanism and immunization against dysentery; research on oxygen phosphate vaccine; and research on the effect of ^{60}Co irradiation on the serum immunization compound of domestic rabbit and on the cause for dengue fever, etc. The Naval Medical Research Institute has observed the effect of training in oceangoing submarine voyages on the immunocompetence of the human body. The general hospitals of Army units joined the

hospitals with the stationed troops in an effort to study common diseases occurring among the troops and to study regional diseases: army group diseases, respiratory tract allergy and its possible relationship to dust mites in the Northeast Region; the distribution of hepatitis surface antigen and the immunocompetence change in hepatitis patients; the immunity state of rheumatoid arthritis and ischemic heart disease patients; etc. The study has provided an important basis for insuring the good health of the vast number of officers and men of the PLA.

2. Research and Application of Immunization Technology

A large number of the papers presented at the meeting were on immunization technology, particularly on the clinical immunization diagnosis techniques. Two characteristics can be observed:

A. Emphasis on the Research and Promotion of Immunization Technology.

Radio-immunity and fluorescent antibody and enzyme antibody indication technology are being studied in the military medical colleges, research units and Army unit general hospitals. The Second and the Fourth Military Medical Colleges experimental study on experiment in fluorescent antibody and enzymoimmunoelectrophoresis (?) [5326 5114 0346 4004 0705 7096] is relatively more systematic. The General Hospital of the People's Liberation Army conducted more thoroughgoing and painstaking research on the immunity determination technique. Other units on the grassroots levels have mastered the antibody technology and used them for clinical immunization diagnosis: the determination of hepatitis Type-B nucleus antibody, antibody for gastric wall cells, anti-PPD antibody of tuberculosis, etc. The PLA Units General Hospital in Nanjing is advanced in the technology for determining the complement component and its product from splitting action. Many hospitals made key observations of changes in cell immunocompetence, including: clinical examination of the K cell activity of hepatitis patients and autoimmune disease patients; the T_G, T_M subgroup; lymphocyte-affecting factors in ANAE and ERFC test; delayed allergic reaction; PHA skin test; etc. The research and promotion of these methods have enhanced the development and dissemination of immunization technology.

B. Increase in Diagnosis Level by Adoption of New Technology.

New diagnostic methods have been established using modernized technology. For instance, electron microscopes are now used for diagnosing hepatitis Type-A and Type-B antigens and for locating wheel-shaped virus and xin de bi si [6580 1795 3024 2448] virus antigen. The Second Affiliated Hospital of the Second Military Medical College leads the country in diagnosing diseases of anomaly immunoglobulin such as light chain disease, M protein and half-molecule IgA using the quantitative electrophoresis method. Some hospitals determine the immunoglobulin and immune complex using the laser turbidity method and determine the HBsAg compound using gastric enzyme digestion method. The positive rate is increased in all cases. Hospital 307 has used the micro cytotoxin test to determine the HLA antigen distribution of the Han nationality and some of the minority nationalities. The micro cytotoxin test can also determine

the HLA type of diabetes patients. The above developments have filled a certain gap in the research on leukocyte antigen in our country. Some units established rocket electrophoresis indirect clot and ELISA tests and achieved certain results in testing the CRP or antibody amount in the patient's serum. In addition, they also introduced the immunochemistry method for determining cholic acid myoglobin and hormone, thus giving initiative to improving the continued clinical biochemical determination method. All these newly established techniques have raised the clinical immunity diagnosis level.

3. Research in Biological Preparation

In a combined effort to meet the needs for the prevention, diagnosis and treatment of disease in Army units, hospitals and military medical scientific research units have convened meetings to report on the research and development of immunization products such as vaccines, adjuvant, antiserum, thymosin and interferon. The following developments have provided new favorable factors for disease prevention, diagnosis and treatment: the production of anthrax chemical for humans, the para-oxon vaccine, dysentery s_d attenuated vaccine, subunit vaccine and artificially induced mutation of Flexner's (?) [4394 3044] bacillus and Shiga bacillus etc. Other products include: immunological agent such as lipid, peptide anti-T-cell, anti-C_3, C_4 serum and several varieties of anti-human fluorescent antibodies. Some units studied human α-interferon induction, extracted cow or pig thymosin F_5 and immune ribose nucleic acid, etc.

4. Immunization Treatment

Many units have developed research in experimental immunization therapy. One example is the transfusion of fetal hepatic cell suspension for aplastic anemia patients and simultaneous observation of the changes in the T lymphcyte. The 40 cases of clinical observations on gastric cancer treatment by idiocrasy immunization treatment have demonstrated the results of a prolonged survival period. The treatment of early detected cancer after surgery has relatively better results. Thymosin can be used to treat epidemic hemorrhagic fever and autoimmune disease by reducing anomaly immunoglobulin and elevating the cell immunity function. Thymosin and myocyte are also effective in treating chronic hepatitis. Experience accumulated from these clinical practices has advanced clinical immunization treatment.

Veteran scholars in the field of immunology--Professor Xie Shaowen, Professor Yang Guizhen and the chairman of the Beijing Medical College, Professor Long Zhezhou--also presented reports at the meeting. Associate Professor Chen Ren of the Beijing Second Military Medical College also participated in the meeting. Professor Chen Shaowen briefly introduced the WHO immunization cultivation and training center. He also gave a report on "Immunization Mechanism Research Through Ideopathy of Laboratory Animals." Professor Yang Guizhen introduced the newest development concerning immunity system neuroendocrinic regulation. Chairman Long Zhenzhou reported on the current state and future direction in immunization research and development. Professor Ye Tianxiang of the Second Military Medical College presented a paper on "Externally Inducted Antibody System and Hemolytic Kong ban [4500 2432] Technique" and

reported on the research development in this subject both in his unit and elsewhere in this country and abroad.

Professor Wu Wei of the Military Medical Science Academy reported on "Glycoprotein and Immunization Reaction." The above special topics have promised a bright future for research in immunization regulation and disease mechanism both on the molecular level and in organic conceptions.

12453
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HU'S RECOMMENDATION ON SCIENTIST IMPLEMENTED

OW231133 Beijing XINHUA in English 1034 GMT 23 Feb 84

[Text] Beijing, 23 February (XINHUA)--A medical scientist who made outstanding achievements in microcirculation research has been promoted to associate research fellowship, the GUANGMING DAILY reports today.

XIU RUIJUAN, 47, of the Basic Medical Science Research Institute made two major breakthroughs in microcirculation, a new branch of medical science, while studying in the United States 1981-83. She and four top scientists from the United States, Sweden and Federal Republic of Germany co-founded the international institute of microcirculation in Sweden.

Chinese Communist Party General Secretary Hu Yaobang said on 5 December that such outstanding scientists as Xiu Ruijuan should be promoted and provided with necessary material conditions to help their work and old rules which stress seniority should be done away with.

"Our modernization program would be hopeless if we fail to use such able people appropriately," he said.

When leaders of the medical science academy learned of Hu Yaobang's remarks, they met and saw to it that the party's policies towards intellectuals be implemented.

Xiu Ruijuan has been provided with a laboratory with assistants of her own choice.

Minister of public health Cui Xueli said yesterday evening that it is an urgent and important task to promote fine middle-aged intellectuals.

The minister had several talks with Xiu Ruijuan after she returned from the United States and gave her much encouragement.

A few days ago Xiu Ruijuan left Beijing for the United States to purchase equipment for China's firse microcirculation laboratory.

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SCIENTISTS AND SCIENTIFIC ORGANIZATIONS

PROFESSOR LU FUHUA, EXPERT IN PHARMACOLOGY

Beijing YAOXUE TONGBAO [CHINESE PHARMACEUTICAL BULLETIN] in Chinese No 7, 1983 pp 39-41

[Article by Qian Jianqing [6929 1367 1987], Zeng Fandian [2582 4907 0368], Yao Weixing [1202 0251 2502], Chen Yiyue [7115 0001 1471], Hu Wenshu [5170 2429 3219] of the Pharmacological Teaching and Research Laboratory of the Wuhan Medical College: [Pharmacological Expert, Professor Lu Fuhua"]

[Text] Prof Lu Fuhua [0712 1381 5478], head of the Pharmacological Teaching and Research Laboratory of the Wuhan Medical College, is our nation's renowned pharmacologist of the old generation and the pioneer of China's cardiovascular pharmacology. He has made great contributions in the study of cardiovascular medicines, especially cardiac stimulants, and his achievement is also outstanding in training pharmacological talent and in the writing of teaching materials.

Prof Lu Fuhua was born in Huang County, Shangdong, in July, 1907. He is now 76 years old. In 1932, he graduated with honors from the Medical College of Tongji University in Shanghai. After graduation, he remained to serve as teaching assistant in microbiology. He conducted microbiological research under the guidance of Professor Finkeldey at the college. The following year, he passed the government scholarship exam to study abroad and was sent to Germany to study.

During the period of study in Germany, he conducted research in experimental pathology with Professor Aschoff at Freiburg in Germany, and proved for the first time the carcinogenic nature of tobacco tar. Then he studied the structural effect relationship (1934-1935) of medicines with Professor Schuler at Koln and Professor Labes in Germany. He measured the dissolution product [2] of phenols and alkaloids. Later he studied theoretical pharmacology and cardiac stimulants with Professor Heubner at Berlin and was very interested in the potential differentiation of medicines, and published a thesis on the accumulation of digitoxinum [3].

While studying in Germany, he joined the German Pharmacological Society, and received a German medical Ph.D. The scientific research papers published in German during his time in Germany and at the beginning period after his return included: Spasmolysis of Thymus Mongolicus [4], Study of the Effect

of Stimulants of the Central Nervous System During Suffocation [5], The Respiratory Function of the Lungs [6], totaling eight papers. From 1936 after his return to 1940, he served as head of the pharmacology department of the Medical College of Tongji University, assistant professor, and professor.

During the period of the invasion of China by Japanese imperialism and under the dark rule of the Kuomintang, he was forced to discontinue scientific research work. At the time, he suffered from severe laryngeal tuberculosis and was unreasonably dismissed by the reactionary authority of the Kuomintang.

In 1949, the great People's Republic of China was born. From that time on, he also began a new life, and again served as professor and head of the pharmacology department of the Medical College of Tongji University. He actively engaged in teaching and scientific research in pharmacology.

In 1952, he responded to the government call to go to Hankou from Shanghai. At the time, the Central South Tongji Medical College (the present Wuhan Medical College) was being founded. Scientific research work and conditions were poor. He exerted great efforts to develop scientific research and especially the study of Chinese herbal medicines and he realized visible achievements.

In 1955, he published an article [7] entitled "Viewing the Importance of Learning Chinese Medicine from the Angle of Personal Work" in the CHINESE MEDICAL JOURNAL. He described his own attitude and experience in studying Chinese medicine and Chinese medicinal herbs. The article described the history of research of such Chinese medicines as ephedra sinica, eucommia ulmoides, schisandra chinensis, and dichroa febrifuga. He pointed out Chinese medicine and Chinese medicinal herbs are our nation's precious heritage, and he emphasized the importance of learning from Chinese medicine in the study of Chinese medicinal herbs.

In the pharmacological work in studying Chinese herbal medicines, he published six papers in the CHINESE MEDICAL JOURNAL from 1954 to 1955 including "The Pharmacological Study of Angelica" [8], [Pharmacological Study of Leonurus Heterophyllus" [9], [The Pain-killing Function of Corydalis" [10], and "The Study of Mang Cao Shi" [11].

He has a keen interest in botany and a deep knowledge. In his youth, he paid a lot of attention to every plant and tree in nature, and often he made detailed observations of flowers and plants. Starting in 1955, he concentrated more effort in finding domestically produced medicinal plants that had a cardiac stimulation function in order to find domestically produced cardiac stimulants that had a broader range of treatment to replace imported strophanthinum K to save foreign exchange for the nation. Under his leadership, the teaching and research laboratory conducted in-depth study of domestically produced strophanthus kombe--strophantus divaricatus. Experimental research was conducted to study the effective element divasid in strophantus divaricatus with the close cooperation of the Shanghai Institute of Medicines of the Chinese Academy of Sciences (Prof Zhu Renhong

[2612 0117 1347]), the Institute of Organic Chemistry (Professors Huang Minglong [7806 7686 7893], Huang Weiyuan [7806 4850 0997] and Chen Yuqun [7115 8022 5028]) and the Beijing Medical College (Prof Zhao Yuhuang [6392 8762 7806]). They confirmed that cardiac stimulation by divasid was due to the cardiac stimulant, not saponin, and further conducted in-depth study of the biological efficiency value, absorption, accumulation, elimination and toxicity of divasid. They established a foundation for its clinical use in intravenous injection, and provided necessary experimental pharmacological data for the clinical use of divasid. Through clinical tests of divasid, they proved that its effect of treatment was good, its toxicity was lower than that of strophanthinum K, and it could completely replace imported strophanthinum K. It was the first cardiac stimulant from our nation's plant resources that was discovered and used clinically. It has been included in the "Chinese Book of Medicines" published in 1965. Under his leadership, comrades of the teaching and research laboratory proved by experiment that poisoning caused by wujiapi wine was due to the content of a cardiac stimulant in periploca sepium [12, 13]. He deeply believed our nation is a large land with many things and rich resources. Not only can we find cardiac stimulants in such plants as strophantus divaricatus and periploca sepium, we will surely find different cardiac stimulants in other plants. Later, comrades of the teaching and research laboratory also conducted much scientific research work on domestically produced corchorus capsularis, qilihuang, draba nemorosa, guizhuxiang, iris ensata, cerbera manghas, oleander, tiekuaizi...and such plants with a cardiac-stimulant function or cardiac stimulants. They published more than 20 scientific research papers on cardiac stimulants in domestic magazines.

The pharmacological function of another Chinese herbal medicine, tetrandrine (tetrandrine A) was also studied in depth by comrades in the group under his leadership. They proved through animal experiments that the effective elements in tetrandrine not only serves as an antiphlogistic and pain suppressant, it is also a good medicine to reduce blood pressure and can be used to treat hypertension. In recent years, tetrandrine has been proven to resist and reduce the toxicity of cardiac stimulants, and can act against arrhythmia in experimental animals caused by wabayin (?). At the same time, research by comrades of the laboratory proved that its calcium-resistance was one of the main factors in its mechanism of reducing blood pressure.

Prof Lu Fuhua not only contributed to the discovery of the heritage of medical science of the motherland in scientific research work, he also did much work in writing pharmacological teaching materials and in training teachers. He was the main writer for the national pharmacological teaching material compiled by Prof Zhang Changshao [1728 2490 4801] in the 1950s. The chapters he wrote on medicines for the central nervous system and cardiac stimulants were carefully done, full of facts and were praised. He was also the main editor and author of the first and second editions of "Medica Pharmacology." In recent years, he has actively planned and supported the writing and publication of many pharmacological books. He is the editor of "Progress in Pharmacology, Volume on Cardiovascular Medicines" published in 1981, and "Clinical Pharmacology," about to be

published, and other books. He is careful in editing, he emphasizes careful selection of material, he emphasizes references and opposed repeating what others say. His rigorous scholastic attitude has benefited the writers. At the same time, he pays much attention to the emergence of new theory and new viewpoints and emphasizes a hundred schools contend.

In training teaching talent, the most precious is that he is skilled at and dares to train talent, he has created better conditions for the growth of middle-aged and young teachers, he has encouraged them to develop their specialities, and to hasten growth. Such a comrade trained by him, Assistant pharmacology laboratory of the Henan Medical College and assistant director of the Henan Medical Science Institute) reminisced about the teachings of old man Lu not long ago. He believed old man Lu has a profound philosophy and farsightedness in training talent. He is skilled at developing the subjective mobility of the individual, and he pays attention to training independent thinking and the ability of independent work. Old man Lu often told stories about his teacher in Germany, Professor Heubner. When he encountered difficulties in his research and asked his teacher, Heubner said: "You invent a method yourself!" Only when he finally found a way to solve the difficulty through his own efforts, did he realize the active meaning of professor Heubner who did not directly teach him but inspired him to create. In scientific research work, he very strongly emphasized the important meaning of developing creativity. At the end of November, 1981, in the closing speech to the First National Cardiovascular Pharmacology Conference, he emphasized developing creativity. He pointed out: "Advanced equipment does not mean advanced research achievements, there must also be creative scientific research designs before advanced achievements can be created." He cited Offo Loewi who ingeniously designed the use of the flow of two sinus hormones in 1921 and discovered the cholinergic nerve transmitter, and Claude Bernard creatively used a frog to determine exactly where arrow poison acts, and such cases.

Under the care and guidance of the party and under the concrete guidance of Professor Lu, many talents have been produced by the pharmacological teaching and research laboratory of the Wuhan Medical College, and each has his own specialty. Special pharmacological workers taught by old man Lu are working in every medical and pharmacological school throughout the nation and they have become the technical backbone of each unit. He treats everyone equally in the academic field, he is careful and humble, he develops academic democracy, and has the good tradition of the old generation of scholars training the next generation of scholars.

Before the cultural revolution, he served as delegate to the Third National People's Congress, member of the medical dictionary compilation committee, and chairman of the Wuhan branch of the Chinese Physiological Society.

During the time when Lin Biao and the gang of four were rampaging, he was persecuted and suppressed, and his life and learning conditions were poor, but he still cared about the progress in pharmacological science.

He is now director of the pharmacological teaching and research laboratory of Wuhan Medical College, delegate of the Wuhan City People's Congress, member of the Chinese Physiological Society, deputy chairman of the Chinese Pharmacological Society, chairman of the Cardiovascular Pharmacology Committee of the Chinese Pharmacological Society, and member of the editorial committees of such magazines as the CHINESE JOURNAL OF PHARMACOLOGY, JOURNAL OF MEDICINAL SCIENCE, volume on foreign medical science and medicinal science, WUHAN MEDICAL SCIENCE, and PROGRESS IN PHYSIOLOGICAL SCIENCE.

Recently, he engaged in further research in expanding the range of treatment by cardiac stimulants and finding cardiac medicines better than cardiac stimulants, published articles including "The Important Goals and Ways To Study Cardiac Stimulants" [14], "Cardiac Stimulants and Hyperaemic Heart Failure" [15], "Recent Situation and the Future of Research in Cardiac Stimulants" [16]. He preliminarily discovered that tetrandrine and angelica can reduce the toxicity of cardiac stimulants. This is a beginning for enlarging the range of treatment by cardiac stimulants. He also humbly said: "The achievements in scientific research should belong to the party's leadership and support and hard work by comrades, not the individual."

Like other old intellectuals, he is happy, spirited, and he said he wants to train successors in his old age and contribute more to the realization of the four modernizations.

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PROFESSOR LI CHENGGU, FAMOUS PHARMACOGNOSIST

Beijing YAOXUE TONGBAO [CHINESE PHARMACEUTICAL BULLETIN] in Chinese No 11, 1983 pp 42-44

[Article by Su Zhongwu [5685 0022 2975]: "Pharmacognosist Professor Li Chenggu"]

[Text] Prof Li Chenggu's ancestral home is Tungcheng County, Anhui Province. Born in Nov 1905 and after graduating from the Shandong Agricultural College in 1924, he was selected by government examination to study in Japan at state expense in September of the same year. He commenced his studies at Hiroshima Normal College and at the graduate school of the Hiroshima University and Arts and Sciences in April 1925. In 1932, responding to the call to "Return to the Homeland to Participate in the War of Resistance against Japan (1937-1945)," he came home to teach successively at Baoding Agricultural College, Beijing Zhongfa University, Anhui University, etc. After the war broke out, he made it to the rear headquarters in 1938 after shifting through many places while engaging in pharmocology and teaching all the while. With the victory of the War of Resistance against Japan, he took a part-time teaching post in the Department of Biology of Tongji University. After the liberation of Shanghai in 1949, he resigned from his teaching post at Tongji University to work full time at the People's Medical College (later called the Second Military Medical College), organizing the establishment of an Army Pharmocology Department. Professor Li has been vice chairman of the Department of Pharmocology and chairman of the Teaching-Research Laboratory of Pharmacognosy. Simultaneously, he serves as Medical Scientific and Technology Commission member of the General Logistics Department, Ministry of Public Health; head of the All-Army Pharmaceutical Group; member of the Chinese Pharmaceutical Society Council; vice director of the Shanghai section of the Chinese Pharmaceutical Society Council, member of the Ministry of Public Health Pharmacopoeia Commission and head of the traditional Chinese medicine division; Learned Commission member of the Shanghai Institute of Pharmaceutical of the Chinese Academy of Sciences; and consultant to the Shanghai Bureau of Medicine Administration.

After liberation, Prof Li Chenggu studied Marxism-Leninism and Mao Zedong Thought and progressed steadily in political understanding. In November 1956, he had the honor of being admitted into the Chinese Communist Party. He is strongly dedicated to the revolutionary cause and concerns himself with the work of the Pharmocology Department and the development of the all-army pharmacology work. Working industriously, he has been awarded Merit Citation

Class II and Merit Citation Class III. Time and again, he has been lauded as an advanced worker and activist for socialist construction. Both in 1960 and in 1981, his achievement was published in the JIEFANGJUN BAO [CHINESE PEOPLE'S LIBERATION ARMY NEWS] which praised him for his loyalty to the party's education cause and for his wholehearted dedication to scientific research.

His consistent educational philosophy is to cultivate students' ability to analyze and solve problems. He also develops in students the ability to mediate theory and practice. He cultivates the condition in which students can learn as they work in actual situations. As far back as during the War of Resistance against Japan, in Anshun of Guizhou Province, he led students in planting herb gardens in the wilderness, building greenhouses and planting such important medical herbs as Dalmatian chrysanthemum, belladonna, mandolin, digitalis, etc. These were some of the activities designed to enrich the content of teaching and to expand scientific research. After class and during vacations, he led students in gathering plant samples in the surrounding mountains and forests, investigating the distribution of herbal medicine plants and the varieties of commonly used crude drugs. After the founding of the New China, Professor Li has doubled his vigor. He works continuously at improving his teaching method and at inspiring students to think for themselves. He always encourages students to have close contact with reality. He has taught at many universities and in a variety of courses: general botany, systematic botany, plant pathology, pathology of trees, plant anatomy, botany for plants used as medicine, pharmacognosy, etc. He writes his own lecture notes and is noted for his ability to explain the profound in simple terms and for his learned quotes from many sources. Lively and vivid, these lectures are well received by students.

Professor Li advocates that although teaching should be the central mission of universities, related scientific research work should be developed hand in hand with teaching. With rational management of time and energy, he has been able to select topics for lessons and for research in such a way that there is unified attention to both teaching and research. Faculty standards are being raised through research along with the cultivation of students through conscientious teaching. Professor Li is very concerned with the professional growth of young and middle-aged teachers. He demands that they make steady progress by laying down a solid academic foundation. Not only does he trust young people and encourage them to work boldly, he would also hold their hands and carefully teach them every step when needed. Up to this day, he still offers courses and gives counsel to faculty members.

Professor Li is a diligent scholar and his writtern extensively. As early as the War of Resistance against Japan, realizing the tremendous variety and volume of Chinese medicinal substances as well as the abundant medical heritage, he was able to conquer countless difficulties and publish BOTANY FOR HERBAL MEDICINE during the forties amid the extreme paucity of reference materials. Directed against national nihilism, he spoke loudly in the preface of the book: "The importance of Chinese medicine even the European countries and the United States dare not to neglect. We should not underestimate our own capabilities. Rather, we should discard any prejudice and use scientific methods to sort out the ancient writings on herbal medicine as permitted by the financial situation of our country and on the basis of what is available in local produce. We hope

new discoveries and inventions can result in benefits to the health of our countrymen and to reduce omissions and errors in the world. This is a way to bring glory to medical circles and good fortune to our race." He pointed out that to be fruitful, Chinese medical research should combine traditional Chinese medical theory and clinical results, together with extracting the effective composition of herbal medicinal substances. The book has won wide acclaim, and many pharmacology colleges and departments have adopted it as a textbook or reference. PHARMACOGNOSY and other monographs were published successively. They are known for their rich content and modern inclusions, setting an example for pharmacology textbooks. Their influence in the country and abroad is quite certain.

Prof Li Chenggu commands serious scientific attention by always seeking truth from facts. He is also meticulous about writing. Whether in his own writing or in checking and approving other people's work, he ponders each word and each sentence, and not even a punctuation mark is neglected. His prose is lucid and compact, complete as a scienfitic work yet demonstrating high literary achievement. At the end of the fifties, he edited the ILLUSTRATED HANDBOOK OF CHINESE MEDICINE PLANTS, Vol 1. The book contains 9 million words with illustrations of 947 varieties of plants which have medicinal uses. The manuscript was checked and revised by him repeatedly. The description of several varieties were revised many times. This is the first illustrated medicinal plants handbook, an important reference for teachers, students, personnel doing crude drug material surveys, scientific research personnel and production personnel. The ILLUSTRATED HANDBOOK, Vol 1, has won national acclaim, which has encouraged him to edit the next volume. The volume should contain 10 million words and illustrations for more than 1,000 varieties of plants used medicinally. The manuscript was completed at the end of 1965. Unfortunately, the 10-year turmoil started during the same year, and the publication of the book was hindered.

According to Prof Li Chenggu, the national resources of our medicinal plants are abundant, yet there is serious confusion concerning varieties which, if not systematized and straightened out, could hinder the quality of Chinese herbal medicines and pharmacology. From the years just following liberation, he has called for all circles to pay attention to the task of sorting out confusion. He has written several articles stressing the importance and urgency of conducting an all-out campaign to distinguish the genuine from the fake, the superior-grade from the low-grade medicinal substances (crude drugs). Pharmacognosists should courageously assume the responsibility of systematization. He is a member of the traditional Chinese medicine commission of the Traditional Chinese Pharmacology Association, leading and personally setting the standard for Chinese medicinal substances.

Prof Li Chenggu has published more than 10 pharmacognosy research papers on devilpepper, sea weeds, black false belle bore, spica prunellae, cortex fraxini, semen ziziphi spinosae, and caulis fibraureae, etc. These papers not only provided the scientific basis for the evaluation of the quality of Chinese medicine but also inspired the discovery of new plant resources for medicinal use. For instance, in the early fifties, following the discovery of shegenmu, which lowers the blood pressure, Professor Li took the initiative to do a pharmacognosical study on the roots and leaves of devilpepper. This study is the forerunner for providing the natural resources for medicinal substances

in the reserpine category. The paper has been highly regarded in international academic circles. In another example, Professor Li's research on black false bellebore solved the problem of distinguishing true from fake black false belle bore, which is an important traditional drug for treating schistosomiasis. From field study, textual research on the ancient writings on Chinese (herbal) medicine and pharmacognosy research, Professor Li proved that the black false belle bore used by practitioners of Chinese medicine is the root of Hemerocallis Thunbergii Baker which belongs to the same Liliaceae family. Such a discovery ensures the accuracy of the prescription by Chinese medical practitioners.

Although Professor Li has accumulated rich experience during decades of conscientious research, he is never complacent. He is forever searching for excellence and for new medicinal discoveries. He advocates pharmacognosical research on Chinese medicine, a gradual breaking away from the commodity-dried medicinal herb categories identified and established on the basis of shape and tissue and widely use of interdisciplinary cooperation and modern scientific techniques. Beginning in the sixties, research on pharmacognosical topics under his leadership has selectively applied the identification technique of thin-layer chromatography, etc. In recent years, electron microscopes have been used to observe the micro features of the medicinal substances. Since liberation, significant progress has been made in the undertaking of Chinese herbal medicine. Yet there is still a lack of systematic research. Professor Li repeatedly stresses the importance of systematic research. He thinks that the starting point should be at the theoretical basis of traditional Chinese herbal medicine to proceed from natural resource survey, textual research on variety, pharmacognosical identification, gathering and processing, storage and care, to research tasks in composition analysis, experiments in pharmacodynamics, clinical tests, drying and processing, improvements in the forms of drugs and analyses of medicine made of two or more ingredients, etc. In order to expand the source of medicinal substances and to ensure its supply, we should research the domestication, propagating and cultivating of plants which have medicinal uses. This is the only way to establish our modern pharmacology and to allow our ancient civilization to shine in public health undertakings.

Prof Li Chenggu loves our country and is loyal to the party's causes. As a leader, he was able to carry out the party's policy on public health and on medical education thoroughly. During the 10-year turmoil, he was cruelly persecuted. Yet he kept his steady faith and was always clear about what is right and what is wrong without bowing to the evil forces. After his rehabilitation, he threw himself into his work with ever youthful vigour. He is very detail minded. In spite of his old age, in 1981 when the new teaching building was being planned and constructed, he was there in person holding a measuring tape to make sure that the new building met future instructional needs.

Professor Li concerns himself with the overall construction and development in medical undertakings. During the fifties he participated in the national 12-year-plan for science development, actively seeking the development of a new system of pharmacology. As the current vice director of the Chinese Pharmaceutical Association and the chief committee member of the Pharmacognosy Association, he has made numerous contributions to the progress and development of these two associations. He has been a member of the editor committee or advisor for the following magazines: YAOXUE XUEBAO [JOURNAL OF PHARMACEUTICALS],

YAOXUE WENZHAI [SELECTED ARTICLES IN PHARMACEUTICALS], ZHONGYAO TUNGBAO [BULLETIN OF CHINESE MEDICINE], ZHONGCHENGYAO YANJIU [RESEARCH ON CHINESE MEDICINE], RENMIN JUNYI [PEOPLE'S MILITARY DOCTORS], SHANGHAI ZHONGYIYAO ZAZHI [JOURNAL OF SHANGHAI TRADITIONAL MEDICAL SCIENCE], etc. Being an upright person, modest and prudent, Professor Li is also always happy to lend a helping hand. For being what he is and what he does, he has won great admiration among his colleagues. He emphasizes the important task of disseminating scientific knowledge. In 1981, he lectured for a course on propagating scientific knowledge in pharmocology. He is the consultant for SHANGHAI KEJIBAO [SHANGHAI SCIENCE AND TECHNOLOGY NEWS] and DAZHONG WEI SHENG BAO [THE MASS'S HEALTH NEWS]. His strong sense of responsibility has made him daring and outspoken. Frequently, he has offered valuable opinions concerning the research, production and sale of Chinese medicine and the cultivation and use of talent in the medical field to concerned government and party organs.

Other than regular daily work, Professor Li has many social obligations which have kept him busy day and night. At the ripe age of 78 and suffering from diabetes, Professor Li has, nevertheless, never wavered in his revolutionary optimism and strong will for a minute. Recently, he has been busy sorting out his old writings and organizing a teaching echelon to proceed with the task of cultivating young researchers. We wish him health and longevity so that he can keep making his contributions to the party and to the masses.

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