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PHYSICS

AUTHORS: None

ORG: Graduation Practice Group of Worker-Peasant-Soldier Students
of Radio Physics Specialty, Physics Department, Nankai University

TITLE: "A New Instrument for the Study of Acupunctural Anaesthesia:
Model DZ-5 Quantitative Acupunctural Anaesthesia Instrument"

SOURCE: Peking WU-LI [PHYSICS] Vol 5, No 3, Jun 76 pp 138-141

ABSTRACT: The paper describes the operating principles and electronic circuitry of the DZ-5 quantitative acupunctural anaesthesia machine, capable of delivering as stimuli bipolar electrical pulses of rectangular wave form under constant voltage or constant current conditions. An improved version of the previous models, the instrument has been tested on animals and in clinics, and found to be as effective as the other models. However, despite the use of bipolar pulses in this instrument, cases of electrolysis and local burning have been observed.

AUTHORS: None

ORG: Graduation Practice Group of Worker-Peasant-Soldier Students
of Radio Physics Specialty, Department of Physics, Nankai University

TITLE: An Oscilloscope To Be Used for Research in Acupunctural Anaesthesia"

SOURCE: Peking WU-LI [PHYSICS] Vol 5, No 3, Jun 76 pp 142-144

ABSTRACT: A brief description is given of an oscilloscope designed for conducting research in acupunctural anaesthesia. The instrument consists of a dual-trace oscilloscope, a computing circuit and various types of transducers used to monitor the physiological parameters such as electrocardiographic potential, heart beats, volumetric change of blood vessels and the skin temperature. Clinical experience indicates that the electrocardiographic wave can be monitored only when the acupunctural stimuli are turned off and that problems exist in regard to the quantification of monitored physiological signals.

AUTHORS: None

ORG: Graduation Practice Group of Worker-Peasant-Soldier Students
of Semiconductor Physics Specialty, Department of Physics,
Nankai University

TITLE: "Starting Heart Beat by a Physical Method - Fabrication of QRS
Wave Refraining Type Artificial Cardiac Pacemaker"

SOURCE: Peking WU-LI [PHYSICS] Vol 5, No 3, Jun 76 pp 144-146

ABSTRACT: The paper describes the principles and circuitry of an R-wave refraining type cardiac pacemaker, fabricated by the Graduation Group as a research project. The pacemaker is now used in regular clinics after it had been successfully tested on animals.

AUTHORS: None

ORG: Isotope Application Group, Institute for the Eradication of
Termites, Wuhan

TITLE: "Use of Radioactive Isotopes in Tracking Termites"*

SOURCE: Peking WU-LI [PHYSICS] Vol 5, No 3, Jun 76 pp 154-156

ABSTRACT: The paper describes the technique of using radioisotopes in tracking termite colonies. It consists in setting baits labelled with ^{131}I at a location frequented by termites, followed by mapping the cardio-activity change in the vicinity of the infested area to determine their main and auxiliary nesting sites. An example was given to show how an old hotel was effectively eradicated of termites by this technique.

* Received on June 18, 1975

AUTHOR: P'EI Shan [5952/1472]

ORG: Institute of Atmospheric Physics, Chinese Academy of Science

TITLE: "Meteorological Satellites"

SOURCE: Peking WU-LI [PHYSICS] Vol 5, No 3, Jun 76 pp 157-160

ABSTRACT: The paper discusses various aspects of a meteorological satellite including the selection of its orbit, the basic systems which insure its normal operation and various types of observatory equipment aboard. The discussion also covers the operation of ground installations which process the signal from a satellite to obtain weather maps for dissemination. It is pointed out that a 1700 megahertz satellite weather map receiving station, established in China in September, 1973, has produced many quality pictures, valued highly domestically and abroad. With a slight modification, the station will be able to receive data transmitted by stationary satellites.

AUTHOR: LI Ti [2621/6611]

ORG: Department of Mathematics, Pedagogic College of Inner Mongolia

TITLE: "Color Dispersion as Understood in Ancient China"*

SOURCE: Peking WU-LI [PHYSICS] Vol 5, No 3, Jun 76 pp 161-164

ABSTRACT: The paper gives a short historical review of the development of knowledge regarding color dispersion in ancient China. The first documented discovery of the origin of rainbow was made in the 6th century, and records of experimentation with color dispersion by natural quartz crystals dated 900 years ago. Similar studies appeared to have been made later in Central Asia and Europe. However, feudalistic systems have retarded scientific advances in China, and a complete classical Newtonian theory of dispersion was brought into China as late as in the 19th century.

* Received on June 30, 1975

AUTHOR: HUANG Cheng-hsin [7806/2398/2450]

ORG: Department of Physics, Amoy University

TITLE: "To Deny the Unity of Opposites in Attraction and Repulsion
Leads Inevitably to the Concept of the 'Doomsday of Universe'"

SOURCE: Peking WU-LI [PHYSICS] Vol 5, No 3, Jun 76 pp 165-167

ABSTRACT: Reviewing briefly the theory of contraction of stars which leads to the hypothetical formation of black holes and eventual destruction of the universe, the author argues that while the stationary state of neutron stars may ultimately be destroyed, the contraction need not be infinite. In the light of Mao's theory regarding the interdependence and transformation of the opposites, a new repulsive force will develop to check the infinite contraction of neutron stars, and thus the formation of black holes.

AUTHOR: LI Fang-yü [2621/5364/3558]

ORG: The 9th Middle School, Lanchow, Kansu Province

TITLE: "Invariability and Variability of the Velocity of Light"

SOURCE: Peking WU-LI [PHYSICS] Vol 5, No 3, Jun 76 pp 177-179

ABSTRACT: The principle of the constancy of light velocity, verified in many areas where the special theory of relativity has been applied, should not be regarded as a statement of absolute truth. With growing knowledge of the objective world it will become approximate and subject to change. The most effective way to revolutionize the principle is to pursue it in practice. Among the promising investigations are the ones involving the determination of light velocity in a single path, the breakdown of symmetry in negative time under weak interactions, the mechanisms of light propagation in vacuum, the rest mass of photons and the motion of faster-than-light particles.

AUTHOR: YANG I-hung [2799/0110/7703]

ORG: Lung-hsien Middle School, Shensi Province

TITLE: "Limitation, Constancy and Relativity"

SOURCE: Peking WU-LI [PHYSICS] Vol 5, No 3, Jun 76 pp 179-181

ABSTRACT: The constancy and limitation of light velocity and the principle of relativity are the three fundamental attributes of the special theory of relativity, which are mutually dependent and constitute an inseparable interrelationship. Recent discussions on the theory seem to have focused on the velocity limitation without realizing that it is impossible to preserve the principle of relativity while negating the other two attributes. Chin Yuan-hsun's [4440/0337/8113] work did not break away from the theory of relativity, but reaffirmed that acceptance of the principle of relativity led to the existence of a constant velocity-limit.

AUTHOR: NI Kuan-chuing [0242/0342/8741]

ORG: The Second Department of Physics, Fu-tang University

TITLE: "Some Observations on the Special Theory of Relativity"

SOURCE: Peking WU-LI [PHYSICS] Vol 5, No 3, Jun 76 pp 181-183

ABSTRACT: The paper deals with four aspects of the special theory of relativity: (1) its logical weakness, which lies in the postulate of invariable light velocity before the time-space coordinates of two inertia systems are defined since the concept of velocity is meaningless without the coordinates; (2) the velocity limit, which should be viewed as a conditional limit; (3) its extension from a macroscopic to microscopic world; and, (4) Einstein's erroneous philosophical outlook.

AUTHOR: CHIN Yuan-hsun [4440/0337/8113]

ORG: Institute of Mathematics, Chinese Academy of Science

TITLE: "The Space-time Theory before Einstein Was Independent of the Velocity of Light; The Space-time Theory after Einstein Will Not Necessarily Depend on the Velocity of Light"

SOURCE: Peking WU-LI [PHYSICS] Vol 5, No 3, Jun 76 pp 184-190

ABSTRACT: Replying to the criticisms of his "Theory of Space-time Symmetry," the author reiterates his argument regarding Einstein's theory. The latter, which has discarded Galileo's concept of absolute time, is founded solely on the postulate of constant light velocity. It is incapable of handling the space-time problem of photons since it requires photons to have a zero rest mass. With the postulate of symmetry between space and time, it is shown that an invariant velocity ω exists, which is represented by a common bisecting line for two sets of coordinates in the phase plane. ω , which is larger than light velocity c by an arbitrarily small amount, has the physical significance that it is the limiting value of c as the photon frequency approaches infinity. An astronomical example is given to show the effect of this small difference when the distance is large.

7555

CSO: 4009

GENETICS AND BREEDING

AUTHOR: None

ORG: Research Unit on Crop Cross Breeding Applications, Kwangtung Province

TITLE: "Positive Results from Expanded Use of Male-Specific Gametocides in Rice Cultivation"

SOURCE: Peking I-CH'UAN YU YU-CHUNG [GENETICS AND BREEDING] No 4, Jul 76
pp 4-5

ABSTRACT: Using chemicals to arrest male-specific gametophyte development and induce sterility in rice plants during different stages of growth provides a favorable opportunity for plant crossbreeding. Since 1970 when the author organization began research in this area under Party leadership and enlisted widespread support and participation from the masses, great progress has been made. The results foresee a great future for this technique. This article describes how over 100 pesticides, herbs, growth hormones, hormones etc., were screened and tested to find the few with male-specific gametocidal properties. Gametocide No. 1 was finally tested and found to be stable, inexpensive, and effective (with a gametocidal rate between 90 and 100%). The authors further

[continuation of I-CH'UAN YU YU-CHUNG No 4, Jul 76 pp 4-5]

tested several crossbreeding combinations that showed increased productivity between 20 and 40% over their parent stock, and 20% over that of control plantings. The highest yield was 1,275 chin per mou. The mechanism of gametocidal action, the optimal timing of chemical application, and the importance of training personnel for this work were discussed at length.

AUTHOR: None

ORG: Departments of Horticulture and Agriculture, Hunan Agricultural College

TITLE: "How to Determine Chromosomes in Watermelon"

SOURCE: Peking I-CH'UAN YU YU-CHUNG [GENETICS AND BREEDING] No 4, Jul 76
p 10

ABSTRACT: The seedless watermelon produced in China in recent years is well known at home and abroad. To better induce watermelon tetraploids to produce seedless watermelons, the author organizations have, over the last two years, tested a preliminary method that determines the number of chromosomes in watermelon. Cell division for the root tips, stem tips, and young leaves peaks at specific times under temperature conditions between 30 - 35°C. That is, at early morning (6:30 to 7:00 A.M.), noon (12:30 to 1:00 P.M.), evening (6:30 to 7:00 p.m.), and midnight (12:30 to 1:00 A.M.). Article describes the technique for treating root tip specimens for chromosome determination.

AUTHOR: None

ORG: Laboratory No. 203, Institute of Genetics, Chinese Academy of Sciences

TITLE: "A Method to Increase Ovulation in Domestic Animals"

SOURCE: Peking I-CH'UAN YU YU-CHUNG [GENETICS AND BREEDING] No 4, Jul 76
p 19

ABSTRACT: To produce quality breeds of sheep and cattle in greater numbers, the author organization has been experimenting in recent years, with transplantation of fertilized sheep ova, with certain results in cattle raising areas. Administering drugs to ewes and cows of quality stock to stimulate Graafian follicle development can result in producing more than one offspring per animal per breeding season. This article describes an experiment performed in 1975 on an 8-year-old ewe given pregnant mare serum 12-13 days into the breeding season. The ewe subsequently passed 19 fertilized ova, 11 of which were successfully transplanted. She also produced one lamb, which makes 12 lambs altogether, produced from this ewe's line this season. The dosages and timing for injecting the pregnant mare serum, chorionic gonadotropin, follicle stimulating hormone, and luteinizing hormone for sheep and cattle were described in detail.

AUTHOR: LIN T'ung-yung [2651 0681 1066]

ORG: Inner Mongolia Institute of Animal Husbandry and Veterinary Medicine

TITLE: "Production of Pregnant Mare Serum under Rural Conditions"

SOURCE: Peking I-CH'UAN YU YU-CHUNG [GENETICS AND BREEDING] No 4, Jul 76
pp 24-25

ABSTRACT: The program of experimental studies on fertilized ovum transplants in domesticated animals has continued to expand at many production units. However, the quantities of gonadotropic hormone needed to stimulate and increase ovulation in animals for this purpose are in short supply and costly. If preparations of pregnant mare serum are used instead, the source of supply is plentiful. In rural and animal husbandry areas it is a locally available and inexpensive resource. Moreover, the biologic effects of the native product would not be as potent as the purified pituitary extract. Article describes a simple method for producing pregnant mare serum and pregnant mare plasma. Selecting the pregnant mares, when and how to collect the blood (the amount of gonadotropic hormone in the mare does not remain at the same level throughout pregnancy), how to prepare the blood serum and the plasma, and determining the efficacy of the pregnant mare serum preparations are discussed in detail.

- AUTHOR: YIN Wen-shan [1438 2429 1472]

ORG: Institute of Fruit Orchard Cultivation of the Chinese Academy of Agricultural Sciences, Cheng-chou Branch

TITLE: "Seed Production for Seedless Watermelons"

SOURCE: Peking I-CH'UAN YU YU-CHUNG [GENETICS AND BREEDING] No 4, Jul 76,
p 26

ABSTRACT: Seedless watermelons (also called triploid (3x) watermelons), as the name implies, are not self-propagating. Seeds for their propagation depend on seeds from tetraploid (4x) watermelons pollinated by diploid (2x) watermelons. Article discusses the extra care to be given the propagation of tetraploid watermelon seeds (for the mother stock) -- seedling nurture, reasonable dense planting, and increased fertilizing and watering. It also discusses how to distinguish the seedless watermelon from its parent stock, how to prepare and keep parent stocks pure, how to space parent stock plants in the field, and how to increase triploid watermelon seed production and improve seed quality.

5292
CSO: 4009

CHINESE JOURNAL OF INTERNAL MEDICINE

AUTHOR: PENG ming [1756 2494]

ORG: Nan-cheng County People's Hospital, Kiang-si Province

TITLE: "Persist On Long Distance Run Training . Prevent and Treat Hypertensive Disease"

SOURCE: Peking CHUNG-HUA NEI-K'O TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE] No 4, 20 Jul 76 pp 201-202

ABSTRACT: Long distance run training was carried out by 11 patients with hypertensive disease for more than 2 years. The average age of the patients was 46.5 years. Four were complicated with coronary disease and one with suspicious coronary disease. All were previously treated with medications with unsatisfactory results. The systolic pressure before treatment was 140-170 mm. Hg in 7 cases and above 170 mm. Hg in 4 cases; the diastolic pressure was 90-120 mm. Hg in 5 cases and above 120 mm. Hg in 6 cases. The long distance run was undertaken gradually, first by walking, intermittent running and then slow trotting. These were gradually increased until the patient ran 30-40 minutes every day. The speed and distance were entirely controlled by the patient himself. During training no hypotensive drugs were given, but the diet was adequately controlled. The results

[continuation of CHUNG-HUA NEI-K'O TSA-CHIH No 4, 20 Jul 76 pp 201-202]

showed that 10 patients had their B.P. returned to normal limits, one was slightly above normal. All symptoms of headache, dizziness, palpitation, shortness of breath, lassitude, tinnitus, insomnia, frequent dreams and nocturia either disappeared or were improved after lowering of the B.P. Work capacity was increased. EKG showed marked improvement in 3 cases with coronary disease, and improvement in 1 case of coronary disease and 1 case of suspicious coronary disease. The lipoprotein all showed decreased values after training. Body weight was decreased on an average of 9.9 Kg. An illustrative case was given.

AUTHOR: None

ORG: Prevention of Infectious Disease Division, Shanghai Prevention of Infectious Disease Station

TITLE: "Prevention of Virus Hepatitis"

SOURCE: Peking CHUNG-HUA NEI-K'0 TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE] No 4, 20 Jul 76 pp 203-205

ABSTRACT: Prevention of virus hepatitis includes control of the source of infection and elimination of the route of infection.

1. Control of source of infection: Accurate diagnosis is important and is dependent upon clinical symptoms and signs and liver function tests. SGPT test is not specific for hepatitis, other conditions causing elevation of SGPT should be differentiated. Patients with acute hepatitis are the most important source of infection. The infectious stage is from the onset of disease to about 30 days, with the first two weeks most infectious. Occasionally chronic cases may also be infectious. All acute cases must be hospitalized and isolated. Chronic cases should also be hospitalized if possible. Temporary beds may be set up in local hospitals, commune hospitals, factories, farms and schools when hospital beds are not available.

[continuation of CHUNG-HUA NEI-K'0 TSA-CHIH No 4, 20 Jul 76 pp 203-205]

Infectious disease reports and registrations should be carried out, follow-up examinations should be made. Regular physical examinations should be given to cooks, nursery workers, and workers in food factories, handlers of cold drinks and drinking water. For these professions, suspicious cases should be transferred temporarily, established cases should be transferred for one year after recovery. Propaganda should be carried out for people who came into direct contact with patients, and close observation of these people be made. Any one with a history of hepatitis and positive serum hepatitis antigen should not be blood donors. Visitors should be inquired about and examined for possible infectious source. This is true particularly in factories where visitors are numerous. Healthy persons with positive B hepatitis antigens need not be hospitalized, but close observations should be made of them.

2. Elimination of route of infection: Oral ingestion is the main route of infection. Personal hygiene is stressed. The source of water should be properly controlled, avoid contamination with feces and dirty water. The water may be sterilized with bleaching powder and boiled for drinking. Public dining halls should be properly controlled. Utensils are best sterilized by boiling or steaming. Tickets to purchase rice and dishes

[continuation of CHUNG-HUA NEI-K'0 TSA-CHIH No 4, 20 Jul 76 pp 203-205]

should be sterilized by steaming or with formalin steams. Isolation dining rooms should be assigned for people with suspicious hepatitis, acute hepatitis and chronic hepatitis. Public bath houses, swimming pools and barber shops should be supervised. Medical units must conscientiously carry out isolation and sterilization in the out-patient department, wards and temporary set up wards. Boiling for 15 minutes or high pressure sterilization at 121°C for 15 minutes are most effective sterilization methods. The use of alcohol, lysol and carbolic acid are not very effective. Human feces, dirty water and laboratory specimens should be treated before disposal. After discharge from the hospital, the patient's environment and bed should be thoroughly sterilized.

AUTHOR: LÜ Chun-sheng [0712 0193 7105]
YIN Hsiao-meng [1438 2400 1322]
HUNG Yün-hsiang [3163 0336 4382]
PAO Chün [7637 6511]
SUNG Chi-fen [1345 4949 5358]

ORG: Coronary Disease Research Section, Traditional Chinese Medicine Section and Hyperbaric Section of the Second Affiliated Hospital; Physiology Teaching and Research Section, Chekiang Medical Collage

TITLE: "Clinical Observations and Experimental Research of Soutellaria Indica and Conioselinum Univitatum in the Treatment of Coronary Disease"

SOURCE: Peking CHUNG-HUA NEI-K'0 TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE] No 4, 20 Jul 76 pp 206-209

ABSTRACT: Analysis was made of 105 cases of coronary disease treated by soutellaria indica and conioselinum univitatum injections (soutellaria indica No II) for more than two months. Angina pain was mild in 53 cases, moderate in 50 cases and severe in 2 cases. Classification by Traditional Chinese Medicine showed yin hsu in 39 cases, yang hsu in 18 cases and combined yin hsu and yang hsu in 48 cases. Complications included hypertension in 63, hyperlipemia in 69, residual myocardial infarction in 3, arrhythmia in 34, auricular tachycardia in 1, auricular fibrillation in 8,

[continuation of CHUNG-HUA NEI-K'0 TSA-CHIH No 4, 20 Jul 76 pp 206-209]

right bundle branch block in 9, left anterior branch block in 7, auriculo-ventricular block in 2 and prodromal phenomena in 3. Soutellaria indica No II ampules contain in each 2 ml. of solution soutellaria indica and coniosilinum univittatum 4 g. each. The injection was given 1-2 times daily, varying from 2 to over 6 months. After treatment angina pain was markedly improved in 39 cases (37.1%), improved in 61 cases (58.1%) and ineffective in 5 cases (4.8%). Relief of angina pain usually appeared 1-4 weeks after starting treatment. Improvement among the 3 classifications by Traditional Chinese Medicine was about the same. Relief of angina pain was also maintained in winter. Use of this drug did not affect the heart rate. EKG was taken in 92 cases before treatment, 29 were normal and 63 showed changes. Among the 63 with EKG changes, after treatment 8 showed marked improvement, 19 showed improvement, 34 showed no changes and 2 became worse. The hyperlipemia did not show significant changes after treatment. One case showed skin rashes after treatment, the other 104 cases had no side effects.

Experiments were carried out on isolated rabbit hearts. Oxygenated normal saline was perfused into the coronary artery and the volume of perfusion was recorded. Then soutellaria indica No II was added to the perfusion and the volume of perfusion was greatly increased. However, determination of the oxygen contents of the perfusion did not show increased consumption

[continuation of CHUNG-HUA NEI-K'0 TSA-CHIH No 4, 20 Jul 76 pp 206-209]

of oxygen by the myocardium. These experiments indicated that the beneficial effect of soutellaria indica No II on coronary disease was by causing increased coronary blood flow without increasing myocardial oxygen consumption. Soutellaria indica No II may also suppress blood platelet congregation, increase the activity of fibrinolysis and decrease the activity of fibrinogen stabilizing factor, all of which are favorable to anticoagulation and may prevent arterial embolism or atherosclerosis formation.

AUTHOR: None

ORG: Prevention of Coronary Disease Section, Department of Internal Medicine, Affiliated Shu-kwang Hospital, Traditional Chinese Medical School, Shanghai

TITLE: "Clinical Results and Experimental Observations of Ophiopogon Japonicus in the Treatment of Coronary Disease"

SOURCE: Peking CHUNG-HUA NEI-K'0 TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE] No 4, 20 Jul 76 pp 210-211

ABSTRACT: Ophiopogon japonicus was used to treat 101 cases of coronary disease. Oral medication was given to 50 patients: After a course of treatment symptoms were improved markedly in 7, improved in 30 and not improved in 13, the total effective rate 74%; for 42 cases with EKG studies, EKG showed marked improvement in 6, improvement in 11 and no improvement in 24, the total effective rate was 40.5%. Intramuscular injections were given to 31 patients: After a course of treatment symptoms were markedly improved in 7, improved in 19 and not improved in 5, the total effective rate was 83.7%; for 27 cases with EKG studies, EKG showed marked improvement in 4, improvement in 7 and no improvement in 16, the total effective rate was 40.7%. Intravenous injections were given to 20 patients: After a course of treatment symptoms were markedly improved in 8, improved in 8

[continuation of CHUNG-HUA NEI-K'0 TSA-CHIH No 4, 20 Jul 76 pp 206-209]

and not improved in 4, the total effective rate was 80%; all 20 cases had EKG studies, which showed marked improvement in 8, improvement in 5, no improvement in 4 and increased severity in 3, the total effective rate was 65%. Experiments were carried out on white mice to test the effect of ophiopogon japonicus on anoxia tolerance. It was found that in mice given ophiopogon japonicus the survival rate was much higher than the controls when both groups were subjected to anoxic environments. It was hypothesized that this may be the mechanism of action of ophiopogon japonicus in the treatment of coronary disease.

AUTHOR: None

ORG: Department of Internal Medicine, Si-yüan Hospital, Department of Internal Medicine, Tung-chi-men Hospital, Department of Internal Medicine, Kwang-an-men Hospital, Traditional Chinese Medicine Research Institute; Department of Internal Medicine, Peking Hsuan-wu Hospital

TITLE: "Analysis of Effects in 118 Cases of Acute Myocardial Infarction Treated Mainly With 'Anti-infarction Compound'"

SOURCE: Peking CHUNG-HUA NEI-K'0 TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE] No 4, 20 Jul 76 pp 212-215

ABSTRACT: 'Anti-infarction compound' was used in the treatment of 118 cases of acute myocardial infarction. The compound is composed of astragalus hiroshimanus 1 oz., campanumaea pilosula 0.5 oz., polygonatum canaliculatum 0.5 oz., soutellaria indica 1 oz., curcumin 0.5 oz., paeonia ruba 0.5 oz. Additional drugs were given when there were shock and other symptoms. Generally no Western medicines were given during 'anti-infarction compound' treatment. However, some were used during severe complications, such as using lidocaine or atropine for arrhythmia, using aramine and dopamine for shock and using cedilanid for cardiac failure. Among the 118 cases, 46 also had hypertension, 13 had cerebral vascular disease, 13 had

[continuation of CHUNG-HUA NEI-K'0 TSA-CHIH No 4, 20 Jul 76 pp 212-215]

residual myocardial infarction, 7 had diabetes and 1 had cirrhosis of the liver. Complications included severe cardiac arrhythmia (55.9%), shock (28.0%), cardiac failure (18.6%), pulmonary or general infections (8.5%), massive gastrointestinal hemorrhage (1.7%) and perforation of ventricular septum (0.99%). There were 17 deaths in this group, a mortality rate of 14.4%. A comparison of results was made with 100 cases treated with Western medicine (control). In the 'anti-infarction compound' group 33 had shock, with a mortality of 6.1%; in the control group 30 had shock, with a mortality of 43.3%. In the 'anti-infarction compound' group 22 had cardiac failure, with a mortality of 9.1%; in the control group 34 had cardiac failure, with a mortality of 26.5%. In the 'anti-infarction compound' group 50 had severe arrhythmia on admission and 16 developed arrhythmia during treatment, with a mortality of 15.2%; in the control group 17 had severe arrhythmia on admission and 21 developed arrhythmia during treatment, with a mortality of 36.8%.

The mechanism of action of 'anti-infarction compound' was discussed in terms of Traditional Chinese Medicine. Balancing the yin and yang (negative and positive) was stressed. In terms of modern medicine,

[continuation of CHUNG-HUA NEI-K'0 TSA-CHIH No 4, 20 Jul 76 pp 212-215]

it was suggested that 'anti-infarction compound' may be beneficial in myocardial infarction by its action of anti-thrombus formation, increase thrombus dissolution, suppression of platelet congregation, improvement of coronary circulation and increase of coronary perfusion volume. Prevention and treatment of cardiac arrest were discussed, since cardiac arrest is the most serious complication of myocardial infarction. In this group, 9 of 10 cases with cardiac arrest died.

AUTHOR: None

ORG: Coronary Disease Section, Fu-wai Hospital, Chinese Medical Scientific Institute

TITLE: "Analysis of Clinical Results of the Treatment of Acute Myocardial Infarction With Combined Traditional Chinese and Western Medicine"

SOURCE: Peking CHUNG-HUA NEI-K'0 TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE] No 4, 20 Jul 76 pp 216-219

ABSTRACT: From Jan 1971 to Dec 1974, 212 cases of acute myocardial infarction were admitted. As some soon died after admission and combined Traditional Chinese and Western Medicine treatment could not be used in time, only 199 cases that survived for 24 hours were given combined treatment. Treatments of these 199 cases were analyzed. One group of 98 cases were given a support yang decoction consisting astragalus hiroshimanus, aralia edulis, paeonia rubra, soutellaria indica, conioselinum univittatum, perichaeta sieboldii and elephant tusk powder. Another group of 89 cases were given a variety of Chinese herb medicines. Both groups were supplemented with Western medicines, which included aramine, dopamine, phentolamine and isoproterenol for cardiogenic shock; digitalis and diuretics for cardiac failure; lidocaine, quinidine and atropine for cardiac arrhythmia;

[continuation of CHUNG-HUA NEI-K'0 TSA-CHIH No 4, 20 Jul 76 pp 216-219]

electric defibrillation or stimulation; 706 plasma substitute and anti-coagulants. As the group of 12 treated with Western medicine alone was too small in number, a group of 151 cases treated with Western medicine alone in the Peking Area was used for comparison. The age, sex, re-infarction, position of infarction and complications were about the same in all three groups.

Combined treatment in 187 cases (group 1 & 2) resulted in 163 cured and 24 deaths, a mortality of 12.8%. This is comparable to a group of combined treatment in the Peking Area of 283 cases with a mortality of 11.3%. In the group of 151 cases treated with Western medicine alone in the Peking Area, the mortality rate was 29.1%. The mortality rates of combined treatment of cases complicated with cardiogenic shock, cardiac failure and severe arrhythmia were 18.6%, 6.3% and 15.5% respectively, as compared with mortality rates of 43.3%, 26.5% and 36.8% in cases treated with Western medicine alone.

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A brief discussion was made on the principles of treatment by Traditional Chinese medicine. It was suggested that 'move the blood and remove congestion' herb medicines may have the following actions which are beneficial to myocardial diseases: Increase coronary flow, decrease blood vessel tension, improve microcirculation, anti-hypertensive and anti-anoxia action, decrease platelet congregation, increase fibrinogen solubility, prevention of platelet congregation in the small vessels of the myocardium and injury to the myocardium.

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TITLE: "Treatment of Hemiplegia Caused by Cerebral Vascular Diseases With Supersonic Wave Analysis of Results in 1005 Cases"

SOURCE: Peking CHUNG-HUA NEI-K'0 TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE] No 4, 20 Jul 76 pp 220-223

ABSTRACT: During 1972-1975, supersonic wave treatment was given to 1,260 patients with hemiplegia caused by cerebral vascular diseases. Analysis of 1005 cases with complete records was made. There were 478 cases of cerebral thrombosis, 71 cases of cerebral hemorrhage, 53 cases of cerebral embolism and 403 cases of cerebral vascular disease sequelae. Hemiplegia was right sided in 581 cases and left sided in 424 cases. Aphasia was present in 572 cases. Localization of the area of damage was made by clinical manifestations and neurological examinations. The scalp was topographically divided to guide the extent of treatment. A table of dosage and treatment time for different ages was given. Treatment was given 15-20 minutes daily, 5-7 treatments constitute a course. The method of treatment and precautions were given. Supplementary treatment of acupuncture and massage were also used.

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Most cases showed improvement after one course of treatment, 54.8% were basically cured after 1-5 courses of treatment. The basically cured rate of patients with cerebral thrombosis, cerebral hemorrhage and cerebral embolism were 54.8%, 49.3% and 58.4% respectively. In 45 cases of cerebral thrombosis treated with supersonic waves as compared with 45 cases treated with other methods, in the former group the results were 21 basically cured, 13 markedly improved, 7 cases improved and 4 without effect, whereas in the latter group the results were 11 basically cured, 7 markedly improved, 20 improved and 7 without effect. It was also shown that the sooner supersonic wave treatment was given the better the results. However, in the acute stage of the disease when there is severe edema, this should be taken care of before giving supersonic wave treatment. It usually took 1-2 weeks. Follow-up studies were carried out on 366 cases 1/2 month to two years after treatment. The condition was stabilized or continued to improve in 331 cases, 11 showed further deterioration, 19 had recurrence of cerebral vascular accidents, 5 died of cardiac infarction. It was concluded that supersonic wave treatment for hemiplegia caused by cerebral vascular diseases is a safe and effective method of treatment. The method decreases vascular resistance, increases cerebral blood flow and improves cerebral blood supply.

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TITLE: "Clinical Observations of Left Anterior Hemiblock Obscuring
Myocardial Infarction"

SOURCE: Peking CHUNG-HUA NEI-K'0 TSA-CHIH [CHINESE JOURNAL OF INTERNAL
MEDICINE] No 4, 20 Jul 76 pp 224-227

ABSTRACT: Eleven cases of left anterior hemiblock obscuring the diagnosis of myocardial infarction were reported. There were 10 cases with inferior wall myocardial infarction and 1 case with superior wall myocardial infarction. In the 10 cases of inferior wall infarction, 2 originally did not show left anterior hemiblock, but developed the signs during myocardial infarction to obscure the EKG findings; there were 8 cases that were admitted with left anterior hemiblock but did not obscure the EKG findings of myocardial infarction, however, during hospitalization changes of ST-T waves soon obscured the myocardial infarction EKG readings. The case of superior myocardial infarction was admitted with coronary disease and

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cardiac failure, she developed myocardial infarction in the hospital. The next day left anterior hemiblock appeared to obscure the myocardial infarction EKG reading. The mechanism of left anterior hemiblock obscuring the diagnosis of myocardial infarction was considered due to the following: myocardial infarction of the inferior wall become less extensive and existing left anterior hemiblock become more prominent; appearance of left anterior hemiblock during or after development of myocardial infarction; increase severity of left anterior hemiblock during myocardial infarction. The differential diagnosis by EKG interpretation was discussed.

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TITLE: "Clinical Pathological Discussion of 40 Cases of Myocardial Infarction"

SOURCE: Peking CHUNG-HUA NEI-K'0 TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE] No 4, 20 Jul 76 pp 228-232

ABSTRACT: Autopsy was performed on 40 cases of myocardial infarction, 21 were diagnosed as myocardial infarction on admission, 19 were diagnosed as other diseases but autopsy showed myocardial infarction. Atherosclerotic changes of the coronary artery were classified into 5 classes: Class I, below 25% narrowing; class II, 26-50% narrowing; class III, 51-75% narrowing; class IV, above 75% narrowing; class V, near complete or complete narrowing. There were 5 cases each of class II and class III, 7 cases of class IV, 19 cases of class V, and 4 cases unclassified because of incomplete record. Infarction was residual in 22 cases, acute in 11 cases and residual complicated with acute attack in 7 cases.

Clinical symptoms and signs were compared with the pathology. In the 40 cases, 9 had typical angina pain for over 6 months, their classifications

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were all above class IV, with 7 belonging to class V. There were histories of hypertension for over 5 years in 15 cases, 11 had class V changes. In 11 cases there were severe precordial pain or constriction, 7 had pathological changes of class IV-V, 6 of them had fresh emboli in the coronary artery. This group indicated that precordial pain was more apt to occur if there were fresh emboli, if the area of infarction was extensive, and in anterior and inferior wall infarctions. There was no pain in 4 cases, all between 68-84 years old. The infarctions were all residual, pathological changes were all above class III. This group indicated that old age and smaller areas of infarction usually did not cause angina pain. Cardiac failure occurred in 7 cases. There was no definite pattern in this group. Sudden death occurred in 11 cases, 6 of them had class V pathological changes, 4 had fresh emboli in the coronary artery, 3 had subendothelial hemorrhage of the coronary artery, 7 had mental strain or physical exertion as predisposing causes, 7 had hypertension histories. This group indicated that although compensation was good, but the pathology was so severe that any minor incidence might have triggered an accident.

EKG was performed in 23 cases before death. In 20 the diagnoses were correct. Comparison of EKG examination and pathological findings showed

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that EKG examination was valuable in the diagnosis of myocardial infarction and in determining the position of infarction. It was more accurate in the diagnosis of acute infarction than in residual infarction; more accurate in multiple position infarction than in a single position infarction; more accurate in anterior wall and diaphragmatic surface infarction than lateral wall infarction; it showed anterior wall infarctions were usually accompanied by interspacial infarction; it showed diaphragmatic surface infarction were more prone to cause auriculo-ventricular conduction block.

Clinical findings of complications were compared with pathological findings. Autopsy showed 11 cases complicated with pericarditis, but clinically only one showed pericardial friction rubs. In 14 cases autopsy showed emboli in the myocardium, the area of infarction was extensive, averaging 5.8 cm. in diameter. There were 4 cases with ventricular wall tumor formation, 8 cases with cardiac failure manifestations, 5 cases with cardiogenic shock, 7 cases with rupture of the heart. These findings indicated that embolism, the position and size of infarction and the degree of infarction were closely related to cardiac failure, cardiogenic shock and ventricular wall tumor formation. Autopsy showed 8 cases with ventricular wall tumor, but only 1 was diagnosed clinically. Ten cases had histories of cardiac failure for over 6 months, autopsy showed 6 of them with class V pathological changes. All ten of them also had histories of hypertension, autopsy showed

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8 with residual myocardial infarction, the average area of infarction was 5.4 cm. in diameter, 4 also had ventricular wall tumor. Cardiogenic shock occurred in 6 cases, autopsy showed 5 with fresh emboli in the coronary artery, all were acute myocardial infarction, the average area of infarction was 5.7 cm. in diameter, 4 each also had acute cardiac failure and cardiac rupture. Cardiac rupture occurred in 9 cases. Clinical and pathological observations indicated that fresh emboli in the coronary artery, acute penetrating myocardial infarction, interstitial bleeding, edema, neutrophile infiltration and myolysis were all basic pathological factors. Hypertension, emotional strain and failure to observe complete bed rest in the first 1-2 weeks of infarction were factors that increased the cardiac load and contributed to rupture. Cardiac rupture and sudden death were the most common causes of death, followed by cardiac failure, cardiac arrest, ventricular fibrillation and flutter, cardiogenic shock and a variety of other complications.

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TITLE: "X-ray Diagnosis of Carcinomatous Changes of Gastric Ulcer"

SOURCE: Peking CHUNG-HUA NEI-K'0 TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE] No 4, 20 Jul 76 pp 233-236

ABSTRACT: The X-ray films of 55 cases of carcinomatous changes of gastric ulcer proven by operation and pathological examination were reviewed. The pathology was divided into 3 stages. In the early stage (1st stage) carcinomatous changes were confined to the superficial mucosa of the ulcer edge, and gradually extended into the submucosa. X-ray studies showed characteristic gastric ulcer changes, but carcinomatous changes could not be detected. In this series of 55 cases, 13 belonged to this group. In the second stage the ulcer edge showed thickening, hardening, with formation of nodular prominence or development of a circular bank. X-ray studies frequently showed typical carcinomatous changes. In this series, 27 belonged to this stage on first examination, 10 others were added from the first stage patients that fell into the second stage after follow-up studies. In the third stage the carcinomatous changes continued to extend and invade the various layers of the stomach wall and ulcer bed, typical X-ray changes usually confirmed the diagnosis. In this series, 15 cases

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belonged to this stage on first X-ray examination, 1 each from the first and second stage groups were added after follow-up studies.

Proper diagnosis in the second stage by X-ray studies is most important. In 37 cases examined during this stage, the ulcer was in the gastric body in 23 and in the gastric antrum in 14. All showed typical gastric ulcer characteristics. Besides, they showed 1-3 of the following signs which suggested carcinomatous changes: Ulcer crater mouth with finger pressure sign, the X-ray shadow showing a protruding surface on the crater shadow, as if a finger was pressing on it, 27 of the 37 showed this sign; nodular shadows outside of the ulcer crater mouth, 7 showed this sign; nodular shadows within the ulcer crater mouth, 4 showed this sign; the ulcer edge presenting a segment of circular bank, 4 showed this sign; mucosa striae presenting pestle-shaped interruptions, 4 showed this sign; the crater mouth presenting a dull angle, 2 showed this sign. Of the 37 cases, 27 showed 1 of the above signs, 9 showed 2 of the signs and 1 showed 3 signs.

In the 13 cases examined during the first stage, all X-ray studies showed benign gastric ulcer characteristics, 3 were subsequently operated upon and the pathological examination showed carcinomatous changes, 10 went

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on to the second stage and showed characteristic X-ray signs of carcinomatous changes.

For the 58 gastric ulcers (3 cases had 2 ulcers, both with carcinomatous changes) with carcinomatous changes, comparison was made with 104 benign ulcers. The positions of the ulcers in the stomach did not show any significant differences among the two groups. None of the ulcers with carcinomatous changes had a diameter of less than 0.9 cm., which indicated that the chances of small ulcers (less than 0.9 cm. diameter) showing carcinomatous changes are small.

A brief discussion was made on the importance of X-ray diagnosis of carcinomatous changes basing on the 6 characteristic signs. Suitable pressure over the exposure area during X-ray examination to bring out these characteristics was discussed. Suggestions were made to follow-up cases that initially had negative X-ray findings.

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TITLE: "Dialectical Treatment of Diarrhea"

SOURCE: Peking CHUNG-HUA NEI-K'0 TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE] No 4, 20 Jul 76 pp 237-239

ABSTRACT: Diarrhea was classified by dialectical analysis according to Traditional Chinese Medicine and treatment accordingly given. Diarrhea is a manifestation of 'spleen' and 'stomach' (digestive tract) dysfunction. 'Wet evil' is the main causative factor. These include 'wind cold', 'wet fever' 'incorrect ingestion' 'spleen hsu and stomachweakness' 'kidney yang insufficiency' 'liver and spleen incoordination'. Examples of the different types of diarrhea were given. A case of acute diarrhea caused by taking cold food and exposure to cold after a heavy meal was classified as 'wet cold' plus 'wet' diarrhea (acute gastroenteritis) and Chinese herb medicine to 'warm the patient' and 'disperse the cold and wet' were given for treatment. A case of diarrhea caused by drenching in rain after labor was classified as 'wet fever' diarrhea (acute enteritis), and Chinese herb medicine to 'clear the gastrointestinal fever' was used for treatment.

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A case of chronic diarrhea of 5 years' duration was classified as 'spleen hsu cold wet' diarrhea (chronic ulcerative colitis), and Chinese herb medicines were given to 'strengthen the spleen and remove the wet' and 'warm the inner parts to remove the cold'. A case of chronic diarrhea accompanied with menstrual disturbances and emotional unrest for over 2 years was classified as 'liver and spleen incoordination' (gastro-intestinal neurasthenia), and Chinese herb medicines were given to 'clear the liver and remove the congestion' and 'strengthen the spleen and coordinate function'.

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TITLE: "Furoxone in the Treatment of Typhoid Fever"

SOURCE: Peking CHUNG-HUA NEI-K'0 TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE] No 4, 20 Jul 76 p 205

ABSTRACT: Furoxone was used in the treatment of 16 cases of typhoid fever. On admission the average duration of fever was 6.8 days. The dosage used was 400 mg./day for adults and 10 mg./Kg./day for children. The drug was continued 5-7 days after fever disappeared. All cases were cured. The average time for fever to subside was 5.2 days. There were no relapses and no side reactions.

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TITLE: "Use of Phentolamine in Emergency Treatment of Severe Left Heart Failure"

SOURCE: Peking CHUNG-HUA NEI-K'0 TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE] No 4, 20 Jul 76 p 215

ABSTRACT: Phentolamine was used in 7 cases of severe left heart failure that could not be controlled with routine methods. The cases were rheumatic valvular disease complicated with auricular fibrillation in 3 (20 case incidences), acute myocardial infarction in 2 (5 case incidences), hypertensive heart disease in 1 and infectious hypervolume syndrome in 1. The drug was given intravenously 0.1-0.2 mg. Markedly effective results were obtained in 5 cases (27 case incidences), including all 3 cases of low blood flow heart disease and 2 of 3 cases of rheumatic valvular heart disease. Phentolamine is an α -receptor blocking and B-receptor stimulating agent. Its action in acute cardiac failure include: relaxation of vessel smooth muscle, reduction of peripheral resistance, thus increasing cardiac output; direct action on B-receptor of myocardium, thus

[continuation of CHUNG-HUA NEI-K'0 TSA-CHIH No 4, 20 Jul 76 p 215]

increasing its function; increase release of insulin, thus increasing myocardial oxygen metabolism; relief of bronchial spasm that occurs with pulmonary edema.

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TITLE: "Synthetic Radix Coptidis Combined With TMP in the Treatment of Acute Bacillary Dysentery"

SOURCE: Peking CHUNG-HUA NEI-K'0 TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE] No 4, 20 Jul 76 p 219

ABSTRACT: During July to December 1975, 256 cases of acute bacillary dysentery were treated with synthetic radix coptidis combined with TMP. The dosage was synthetic radix coptidis 500 mg. twice daily for adults and 30 mg./Kg./day for children; TMP 100 mg. twice daily for adults and 5 mg./Kg./day for children. Comparison was made with 130 cases treated with tetracycline and furoxone. The cure rate with synthetic radix coptidis and TMP was 97.6% as compared with a cure rate with tetracycline and furoxone of 74.6%.

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TITLE: "Poliovirus Filter Paper Plaque Assay Test"

SOURCE: Peking CHUNG-HUA NEI-K'0 TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE] No 4, 20 Jul 76 p 223

ABSTRACT: A modified plaque assay test using poliovirus filter paper slips to isolate and identify different types of poliovirus was reported. The technique was the same as standard plaque assay test except for slips of filter paper soaked with the patient's stool suspension were used and placed on the agar plates. Details of the technique were described. It was shown that filter paper plaque assay test not only could identify the type of positive virus specimen, but also could isolate and identify the virus of the stool suspension directly at one test.

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ORG: Department of Internal Medicine, Nanking First Hospital

TITLE: "Small Dosage Phentolamine in the Treatment of Acute Left Heart Failure"

SOURCE: Peking CHUNG-HUA NEI-K'0 TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE] No 4, 20 Jul 76 p 227

ABSTRACT: Small dosage phentolamine was used to treat 16 cases of acute left heart failure. The cases included chronic nephritis with uremia 3, myocardial infarction 3, rheumatic heart with mitral stenosis and regurgitation 2, combined valvular heart disease 1, hypertensive heart disease 5, organic phosphorus poisoning 1. The dosage used was 1.5-3 mg., diluted in glucose and given intravenously. In 22 case incidences, 1 case died of other causes, 1 case did not improve, the rest all had improvement in 15-40 minutes. It was considered that the drug relieves arterial spasm, thus increases the peripheral vessel volume, decreases blood volume in the dilated heart, lowers myocardial oxygen consumption and decreases the heart load.

AUTHOR: None

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TITLE: "The Effect of Athletic Training on the Serum Lipids in Hyperlipemia Patients"

SOURCE: Peking CHUNG-HUA NEI-K'0 TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE] No 4, 20 Jul 76 p 236

ABSTRACT: Athletic training was carried out by 24 patients with primary hyperlipemia. The age range was 23-64 years old. Their serum cholesterol was over 250 mg. percent or the serum triglyceride was over 160 mg. percent. Clinical diagnosis of coronary disease was made in 10 patients. Training included mountain climbing, walking, swimming, bicycling, Chinese boxing or ball games, 1-1.5 hours daily. After 1-6 months, the serum cholesterol was lowered on the average of 23.8 mg. percent and the serum triglyceride lowered on the average of 42.5 mg. percent. The 10 patients with coronary disease all had subjective improvement of symptoms, some showed improvement of EKG recordings.

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TITLE: "A Simple Bone Marrow Puncture Method That Avoids Failure"

SOURCE: Peking CHUNG-HUA NEI-K'Ö TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE] No 4, 20 Jul 76 p. 239

ABSTRACT: Failures of bone marrow puncture are usually because of a dry tap or a tap mixed with blood. A two purpose needle was designed to overcome these failures. The needle has a needle body, a needle base, an adaptor, a handle and a stylet. Under local anesthesia the puncture is made at the anterior or posterior superior iliac spine. After puncture the bone marrow is aspirated and a few slides made with the aspirated material. The stylet is plunged in to prevent clotting. If the slides show marrow granules then the puncture is successful. If no granules are seen, then rapid staining is made. If the stained slide shows hyperplasia of nucleated cells, then the puncture is successful. If nucleated cells are scarce or absent, then the position of the needle should be changed

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and another aspiration made. If this still fails, then aspiration biopsy should be carried out. The adaptor is connected to the handle and the needle base, the needle is pushed further in. A few twists will break marrow tissues which are aspirated into the adaptor. Pathological examination can then be made. The method is safe and reliable.

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TITLE: "Polypodium Hastatum Thunb Decoction in the Treatment of Acute Bacillary Dysentery"

SOURCE: Peking CHUNG-HUA NEI-K'0 TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE] No 4, 20 Jul 76 p 255

ABSTRACT: Polypodium hastatum thunb decoction was used in the treatment of 52 cases of acute bacillary dysentery. The fresh herb was decocted into a 15% solution. The dosage was 100 ml. 3X per day, 5-7 days constituted a course. Comparison was made with 44 cases treated with syntomycin. The results showed 46 cases cured, 4 cases improved and 2 cases with no effect. Cure was usually attained in 5-7 days (average 5.8 days), which was sooner than the 7.4 days required by syntomycin. There were no untoward reactions on the liver, kidneys and bone marrow.

AUTHOR: None

ORG: Cardiovascular Section, Department of Internal Medicine, First Affiliated Hospital, Peking Medical School

TITLE: "Seminar: Some Questions Concerning the Diagnosis of Myocardial Infarction"

SOURCE: Peking CHUNG-HUA NEI-K'0 TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE] No 4, 20 Jul 76 pp 240-244

ABSTRACT: Early diagnosis of myocardial infarction was discussed. It was shown that 15-65% of the patients had prodromal symptoms. These included patients with histories of angina pain would show increased frequency and severity and prolonged angina, or patients without histories of angina pain suddenly developing frequent angina attacks which gradually increased in intensity. In a few patients the prodromal symptom was not angina pain but a burning sensation over the chest, dizziness, palpitation, shortness of breath and lassitude. When prodromal symptoms increased in severity but were not continuous, nitroglycerine still gave some relief. At this time there were still no EKG changes. The earliest EKG change in acute myocardial infarction was a high T wave. But a high T wave may be found in other conditions. So that clinical manifestations should also be considered. If

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appropriate measures were taken during the appearance of prodromal symptoms, myocardial infarction could frequently be averted. These measures include rest, relief of pain, oxygen inhalation, use of vasodilators, etc.

Atypical symptoms occurred in 13.4-23.3% of patients. The mortality was high because of mis-diagnosis. In 63 cases with typical symptoms, 21 died (33.4%); in 21 cases with atypical symptoms, the diagnosis was missed in 9, 14 died (66.6%). These atypical cases usually did not have precordial pain, but had symptoms related to other systems. They included: Cardiac failure as the main manifestation; cerebral vascular disturbance as the main symptoms; shock as the main manifestation; abdominal symptoms as the main feature; sore throat and toothache as the main symptoms.

The general reactions of myocardial necrosis were discussed. Most patients with myocardial infarction had fever and polymorphonuclear leukocytosis. The sedimentation was usually increased after 24-48 hours. Serum SGOT began to increase after 8-12 hours and returned to normal after 3-4 days. Increase of SGOT was quite sensitive in the diagnosis of acute myocardial infarction, in 1692 cases 97% showed elevated SGOT. CPK may also be increased in 6-8 hours, reached a peak in 24 hours and returned to normal in 3-4 days. LDH₁ was increased in 95% of acute myocardial infarctions.

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EKG is an important measure of diagnosis for acute myocardial infarction. However, a number of conditions may cause errors in diagnosis. Some locations of myocardial infarction may not show EKG changes. They include: inferior wall infarction, posterior wall infarction, superior lateral wall infarction, inferior endothelial infarction, and atrial infarction. Illustrative cases were given. There may also be conditions that caused abnormal EKG findings that obscured the EKG findings of myocardial infarction. They include: relapsing attacks of myocardial infarction; right or left bundle branch block complicating myocardial infarction; complete atrioventricular block complicating myocardial infarction. Illustrative cases were also given. Some diseases or pathological changes may also show EKG findings similar to myocardial infarction. They include: pulmonary heart disease, myocardial diseases, central nervous system diseases, and acute abdominal diseases. Illustrative cases were given.

AUTHOR: CHEN Hsin [7115 0208]

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TITLE: "The Mechanism of Action and Evaluation of Several Types of Anti-myocardial Ischemia Drugs"

SOURCE: Peking CHUNG-HUA NEI-K'0 TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE] No 4, 20 Jul 76 pp 245-249

ABSTRACT: The action of nitrolipid drugs formerly were supposed to be due to dilatation of coronary artery, increasing blood flow and increasing oxygen supply. Now they are considered due to decrease of myocardial oxygen consumption and increase of blood flow in myocardial ischemic areas. With this new concept, nitrolipids are now considered useful in the treatment of persistent left heart failure. Formerly it was also considered contraindicated to use nitroglycerine in myocardial infarction. Experiments proved that during acute myocardial infarction, lowering the peripheral resistance may lower left ventricular filling, decrease pulmonary congestive edema and increase endocardial systolic perfusion. It may also decrease myocardial oxygen consumption. Therefore it is suggested to use nitroglycerine at the onset of myocardial infarction to limit the extent of infarction. However, to present severe hypotension, the patient should lie flat and the dosage

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should be limited. The advantages of nitroglycerine are: highly effective, quick action, inexpensive and convenient. Its disadvantages are short acting and chemically unstable. ISDN may be used to overcome the disadvantages.

Propranolol is representative of B-receptor blocking agents. It may improve the EKG of ischemic heart and decrease coronary pain. It also has anti-arrhythmia and hypotensive actions, and is indicated for coronary disease patients with hypertension and arrhythmia. When there is myocardial ischemia, catecholamine is released to stimulate B-receptors, causing increased heart rate, cardiac contraction, vascular constriction and increased left heart load and myocardial oxygen consumption. B-receptor blocking drugs block the action of catecholamine, resulting in slowing of the heart rate, decreasing cardiac contraction and decreasing myocardial oxygen consumption. There are a number of B-receptor blocking agents. Simple blocking agents (propranolol) block both B₁ and B₂ receptors. Competing double B-receptor blocking agents (proctolol) is not only a B-receptor blocking agent, it also has B-receptor stimulating effects. B₁-receptor selecting blocking agent (ICI-66082) blocks only B₁-receptors. These may be selectively used. B-receptor blocking agents may also be used with nitrolipids with synergistic actions. The use of propranolol

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and ISDN is now the most effective method of treating persistent angina pain. It is suggested that B-receptor blocking agents should be given in large doses.

Adenosine drugs include ATP, ADP and AMP. They have strong coronary artery dilatation action, but cannot penetrate myocardial cellular membrane and enter the vessels to cause dilatation. Drugs such as persantin, hexobendine and lidoflazine may enhance the vasodilating action of adenosine. Adenosine may increase the myocardial consumption of glucose, lactic acid and pyruvic acid, thus supporting the ischemic myocardium. Persantin may selectively cause dilatation of the coronary artery, thus increasing coronary blood flow. Its action is probably due to increasing the action of adenosine. Clinically persantin has not been satisfactory in the relief of angina pain or acute myocardial infarction.

Drugs supporting Ca^{++} transportation include segontin, isopin and nifedipine. They prevent Ca^{++} to be transported from extracellular to intracellular, causing a lack of intracellular Ca^{++} to cause myocardial contraction, thus suppressing myocardial contraction, decrease the heart rate, decrease cardiac output, resulting in decreased myocardial oxygen consumption. All these are beneficial in myocardial ischemia. They also have anti-sympathetic actions, dilate coronary artery and peripheral vessel actions.

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Chinese herb medicines are also used for myocardial ischemia. Their main action is to 'move the blood and remove congestion'. The action of *Soutellaria indica* include increase myocardial tolerance to ischemia, dilate blood vessels to improve myocardial ischemia, and suppress platelets and erythrocytes to congregate. *Ilex pedunculosa* may dilate the coronary artery, increase coronary flow and decrease myocardial oxygen consumption. Clinically it may prevent angina pain, lower blood pressure and improve peripheral circulation. *Pachyrhizus angulatus* may relieve hypertension symptoms, relieve angina pain and improve the EKG of ischemic myocardium. Its action is dilatation of coronary artery and increase of blood flow. It may also decrease myocardial oxygen consumption, lower blood pressure and heart rate, decrease left ventricular action and improve cardiac function.

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TITLE: "Clinical Pathological Conference 3d Case---High Fever, Hemoptysis, Leucocytosis"

SOURCE: Peking CHUNG-HUA NEI-K'0 TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE] No 4, 20 Jul 76 pp 250-252

ABSTRACT: A 36-year-old male was admitted because of repeated fever, dizziness and restlessness for 4 months. The fever reached 39°-40°C. There was leucocytosis of 30,000. Bone marrow examination showed increase of nucleated cell activities, with primary and juvenile granulocytes. Chronic granulocytic leukemia was suspected and busulfan was given. One week later the leucocytosis dropped to 11,200. Busulfan was discontinued and prednisone was given. Fever continued and was accompanied with cough. X-ray examinations revealed bilateral tuberculosis. Further examination revealed bilateral pulmonary miliary shadows. They were suspected due to leukemia with pulmonary infiltration. Tuberculosis was not considered. Enlarged glands were palpable in the neck and axilla. Further X-ray studies showed left pleural effusion and bilateral pulmonary miliary shadows. With general support and antibiotic treatment, the fever subsided, but melena

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occurred. Repeated transfusions and anti-hemorrhage measures controlled the bleeding, but general deterioration set in. There were general edema, skin maceration and cyanosis. The patient died of general exhaustion.

This patient was treated as a case of chronic granulocytic leukemia from the beginning. But the high fever was not typical. The increase of primary granulocytes in the peripheral blood was also much lower than typical granulocytic leukemia. The course was too short for chronic granulocytic leukemia and the bone marrow findings were not typical. The response to busulfan treatment was doubtful.

Leukemoid reactions may be caused by acute or chronic infections, inflammation and malignant tumors. The probable cause of leukemoid reaction in this case was tuberculosis, for there were fever for 4 months, with pulmonary and pleuritic changes, intestinal and abdominal symptoms and signs, enlarged glands, cough and X-ray findings of bilateral miliary shadows. The use of corticosteroids without anti-tuberculosis antibiotics might have caused spreading of the disease. Acute lymphoma should also be considered, but the symptoms and signs were not typical. The following

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clinical diagnoses should be considered: General miliary tuberculosis; leukemoid reaction; intestinal tuberculosis causing hemorrhage; secondary anemia; nutritional general edema.

Autopsy examination revealed: General tuberculosis involving the lungs, pleura, mediastinal glands, liver, spleen, intestinal and mesenteric glands, thyroids and skin. There was leukemoid hyperactivity of the bone marrow.

AUTHOR: None

ORG: Electrocardiogram Section, Fu-wei Hospital, Chinese Medical Scientific Institute

TITLE: "Clinical Analysis of Electrocardiogram First Case----Atrio-ventricular Interference Dissociation"

SOURCE: Peking CHUNG-HUA NEI-K'0 TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE] No 4, 20 Jul 76 pp 253-255

ABSTRACT: A 23-year-old male was admitted because of hypertension for 10 years, accompanied by dizziness and restlessness. The B.P. was 190/130 mm. Hg, heart rate 70/min. A precordial systolic murmur was heard. The NPN was 31.5 mg. percent, CO₂ combining power 66 vol. percent, serum potassium 2.9-4.1 mEq./liter. The clinical diagnosis was secondary hypertension; hypertensive heart disease with compensation. EKG diagnosis was sinus arrhythmia, left ventricular hypertrophy and strain. The EKG reading also showed that the cardiac arrhythmia was due to atrioventricular interference dissociation. The readings were discussed in detail. Atrioventricular interference dissociation is frequently caused by sinus bradycardia or atrioventricular junction tachycardia, resulting in interference at the

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atrioventricular junction. The condition may be physiological and not necessarily pathological. The occurrence in this case might have been due to aortic arch reflex caused by hypertension and drug induced sinus bradycardia. Hypokalemia might also have contributed to the cause. No treatment is needed if there is no hemodynamic disturbance. If treatment is required, the cause of disturbance should be tackled. If there is sinus bradycardia, then atropine like drugs should be given to increase sinus rhythm; if there is atrioventricular tachycardia, then B-receptor blocking agents should be used to slow the rate.

AUTHOR: None

ORG: None

TITLE: "Clorpenalini Hydrochloridum"

SOURCE: Peking CHUNG-HUA NEI-K'0 TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE] No 4, 20 Jul 76 p 211

ABSTRACT: Clorpenalini hydrochloridum is an adrenalin B-receptor stimulant. It relieves the bronchial spasm caused by mobilized histamine and acetyl choline and has rather mild effects on the cardiovascular system. It is used to treat bronchial asthma, asthmatic chronic bronchitis and chronic bronchitis accompanied with pulmonary edema. The dosage is 1-2 tablets (each tablet 5 mg.) 3X daily orally. Vaporized inhalation may also be used. It does not cause palpitation, but may cause mild headache and tremor of the fingers which usually disappear without treatment. It should be used with care in patients with hyperthyroidism, cardiac arrhythmia or hypertension.

AUTHOR: None

ORG: None

TITLE: "Phenyl Mustard Pyrimidine"

SOURCE: Peking CHUNG-HUA NEI-K'0 TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE] No 4, 20 Jul 76 p 232

ABSTRACT: Phenyl mustard pyrimidine is an alkylating anti-tumor drug produced in this country. It suppresses the synthesis of desoxynucleoside nucleic acid and nucleoside nucleic acid. Experimentally it suppresses a number of animal tumors. Clinically it may be a first choice drug in the treatment of chronic granulocytic leukemia. It may also be used in malignant lymphoma, breast adenocarcinoma and mycosis fungoides. It also has certain effects on testicular tumors, tonsil tumors, nasopharyngeal carcinoma, other leukemias and solid tumors. The dosage for leukemia is 1 tablet (25 mg) 2-3X daily orally; for solid tumors 1-2 tablets 3X daily for 2 days in a week. Side reactions include leucopenia, thrombocytopenia, nausea, vomiting and skin rashes.

AUTHOR: None

ORG: None

TITLE: "Trifluperidoli Hydrochloridum"

SOURCE: Peking CHUNG-HUA NEI-K'0 TSA-CHIH [CHINESE JOURNAL OF INTERNAL MEDICINE] No 4, 20 Jul 76 p 244

ABSTRACT: Trifluperidoli hydrochloridum is a drug that controls excitement, mania and disturbed behavior. The action is rapid and the drug is safe. It may also stimulate patients with depression and mental inertia. It is indicated for the treatment of acute schizophrenia, excitement and mania, disturbed behavior and hallucinations; chronic schizophrenia, depression and indifference, mania and other symptoms of psychiatric diseases. The dosage is 0.5-8 mg. orally daily or 2.5-10 mg. intramuscularly or intravenously daily. Side reactions are extrapyramidal, such as inability to sit quietly and tremors like paralysis agitans.

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