TRANSLATION 184 (T184)
DEPARTMENT OF MEDICAL ZOOLOGY
UNITED STATES
NAVAL MEDICAL RESEARCH UNIT No. 3
c/o AMERICAN EMBASSY
CAIRO, U.A.R.

TRANSLATION FROM RUSSIAN*. MUSABAYEV, I. K. (1953)**. Incidence of hemorrhagic fever in Samarkand Oblast. Sotsial. Zdravookhran. Uzbek., Minist. Zdravookhran. Uzbek SSR, Tashkent, (2):12-16.

In recent medical journals a number of reports have been published concerning an endemic fever characterized to some extent by hemorrhagic syndromes. The authors of these reports called such diseases hemorrhagic fevers.

One of the first to be described in literature was "Far Eastern hemorrhagic nephrosonephritis of viral etiology" (Smorodintsev, A. A., Dunayevsky, M. N. Churilov, A. V. et al., 1944).

In 1944, P. V. Sipovsky studied specific afflictions of the capillary system of the small intestine and stomach characterized by profuse hemorrhages in the lumen of the gastrointestinal tract. His study covered 18 cases (the digestive organs, pancreas, and liver were also investigated).

In the summer and autumn of 1944, an acute feverish disease with hemorrhagic symptoms as described by A. A. Kolchev, was recorded among the population in Crimean steppe regions during the harvest. During the spring and summer months of 1945-1946, in the same Crimean regions, single cases of this illness were again recorded and subsequently investigated by an expedition of the U.S.S.R. Medical Academy headed by M. P. Chumakov, who described these cases in 1947 under the name of toxicoinfectious capillaritis (although no inflammation of the vessels was found).

In 1945, in Turkmenia, acute feverish diseases with hemorrhagic symptoms were also recorded and described by V. Yu. Ioffe. In one of the Turkmenian towns in 1946, G. I. Mikhailov observed 7 cases of illness which developed with symptoms of affliction of the gastrointestinal tract (sanguineous vomiting and intestinal hemorrhages) and also with hemorrhagic eruptions on the body. He asserted that these diseases are similar to those described by P. V. Sipovsky in 1944.

---

* This translation was made for members of the U.S. Hemorrhagic Fever Delegation to the U.S.S.R. and for other interested persons.

** Clinic of Infectious Diseases of Samarkand Medical Institute I. P. Pavlov.

During the summer of 1947, hemorrhagic fever was also reported by Kosovsky and Kolchev in the southwestern part of Severnaya Bukovina, situated in the timbered foothills of the Carpathian Mountains.

The description of Omsk hemorrhagic fever resulted from 2 expeditions carried out by M. P. Chumakov and his colleagues in 1947 and 1948. During these years and later, the incidence of hemorrhagic fever was recorded in some localities of Uzbekistan and studied by Khodukin, Khozinsky, V. I., Finogenova, E. V., and others.

Between 1948, generally during the summer months, about 30 persons with hemorrhagic syndrome, from various localities of Samarkand Oblast entered the Clinic of Infectious Diseases of Samarkand Medical Institute; 8 patients in 1948, 12 in 1949, and 10 in 1950.

The majority of patients (18) associated their illness with work in fields, and some (10) with tickbite. The history of the remaining patients did not contain any information either about bites by insects or sojourn in fields.

Twenty persons entered the clinic before the 5th day of illness, 8 from the 6th to 11th day, and 2 persons on the 11th day after onset of illness.

Age distribution of patients was as follows: under 10 years of age - 2 patients, from 11 to 20 years of age - 7 patients, from 21 to 30 years of age - 10 patients, from 31 to 40 years of age - 5 patients, and 6 patients from 41 to 50 years of age. According to severity of illness they were classified as follows: 18 patients with acute form, 11 patients with less severe form, and 1 patient with mild form of illness.

In all cases, the onset of illness was acute, with high temperature, malaise, rheumatic pains in the loins and extremities, headaches, and general weakness. In 20 patients, increase in the temperature was accompanied by chills.

In almost all cases (27), the temperature increased from the first day of illness (38° - 40°C). Later, in most patients (22) at the first appearance of hemorrhagic syndrome, the temperature dropped sharply to normal or below normal (frequently on the 2 to 5 day, and rarely on 9 to 10 day of illness). In some patients (8) the temperature did not increase, but in 14 patients it increased again 2 to 4 days after the decline. Later in some cases (2), the temperature remained constant, in others remittent (4), intermittent (6), or subfebrile (2 cases).

In 2 patients, the temperature from the onset of illness to recovery was constant - within range of 39° to 40°C, and in 3 patients it was normal or subfebrile. In one case, the temperature remained remittent from the onset of illness to its termination, and in 2 cases the character of the temperature could not be determined owing to early death of the patient

(on the second day of illness). Relaps occurred in one patient after 1 month, and in another patient after an interval of 1 year, with a mild course of illness.

Almost all patients (28) had flushed and puffed faces, but 2 were pale. In all patients, the mucous and the skin integument of the body acquired a pale yellowish tint.

A hemorrhagic eruption of the skin appeared frequently on the second or third day (14 cases), or on the 4th to 5th day of illness (8 cases), rarely on the first day (3 cases), or after 6th day (4 cases). In 20 persons the eruptions were abundant, ranging from the size of a lentil to a 5 kopeck coin, irregular or rounded in shape. In one case, accompanying small eruptions on the body, ecchymosis 5 x 10 cm in dimension appeared on the skin of the hips.

A scant, rounded hemorrhagic eruption, ranging in size from a pinhead to a lentil was observed in 9 cases. These eruptions usually did not protrude above the skin surface. In only one case the eruption was not present, instead a profuse nasal, pharyngeal, and intestinal hemorrhages were noted.

Besides eruptions, hematoma developed at the sites of injections in 2 cases. A feverish eruption on the lips appeared in 2 cases. Subsidence of eruptions occurred most frequently after 9th day of illness, with complete disappearance after the formation of pigmentation, and in prolonged cases - even later (after 15 to 20th day of illness).

In some cases a day before appearance of exanthema, the hemorrhagic enanthema on the mucous of stoma, pharynx (soft palate), and occasionally on the sclera (2 cases) appeared. In severe cases, usually on the day when eruptions broke out or a day before that, profuse bleeding from the nose, throat, ears, sanguinolent vomiting, intestinal (and uterine in women) hemorrhages occurred, which lasted on the average from 4 to 12 days.

In less severe and mild cases, scant nasal, gingival, aural, intestinal (and in women uterine) hemorrhages were noted, lasting until the 7th day of illness.

Cardiovascular system: in most cases the pulse rate was frequent (120 - 130 beats per minute), weak and full; the heart: deaf or muffled sounds, rarely with systolic murmur at the apex (in 3 cases).

Lungs: in 13 cases disseminated dry rales were heard, in 2 patients with acute form of illness a minute focal hemorrhagic bronchopneumonia, and in one case pulmonary edema was observed.

Digestive organs: in 4 patients the tongue was dry, with a brown coating, while in the other patients the tongue was moist, with a white coating. In one patient hemorrhagic enteritis was observed, and in the

second acute hemorrhagic enterocolitis with a fatal result, while in the third patient constipation. Intestinal hemorrhages occurred in 14 patients. In most patients, enlargement of the spleen (18 cases) and the liver in (22 cases) was noted from the third or fourth day of illness, after recovery, these decreased to normal size.

Kidneys: in 5 patients hematuria was noted, and in 3 patients from 0.33 to 0.56% of proteins was revealed. Hyaline and granular cylinders were present in 2 patients.

Sense organs: aural hemorrhage was noted in 6 patients and from the conjunctiva of the eye in 1 patient.

Nervous system: in most patients (20) general sluggishness, apathy, and headaches; in 3 patients with a severe course of illness which ended fatally, a dimness of consciousness, rigidity of occipital muscles, and Kernig's and Brudzinskii's positive symptoms were observed. Depending on the periods of illness, blood of patients was subject to analysis: erythrocytes, hemoglobin, erythrocyte sedimentation reactions were observed in 25 patients at the peak of illness, in 10 patients during convalescence; leucocytes and leucocyte formula was observed in all patients during convalescence; while the number of thrombocytes was determined in 10 patients.

In the majority of examined patients (16 of 25) at the peak of illness the number of erythrocytes was within the range of 4 to 5 millions, and in some (9) patients from 2 to 3 millions per cmm. After recovery, an insignificant decrease of erythrocytes in 7 persons, or fluctuation within the normal range in 3 persons was observed.

The amount of hemoglobin at the peak of illness was below normal (25 to 67%), this gradually increased in most cases after recovery. The intensity of decrease and restoration to normal hemoglobin percentage depended on the severity of illness.

The erythrocyte sedimentation reaction at the peak of illness in all the examined patients and during the convalescence period was accelerated (29 to 83 cmm per hour), after recovery erythrocyte sedimentation gradually decelerated.

The number of thrombocytes at the peak of illness and during the convalescence period fluctuated within the range of 183 to 35,000 per cmm.

The number of leucocytes at the peak of illness as well as during convalescence either decreased in most cases (9 patients to 4000), or was within normal (14 patients); in 7 patients with severe course of illness with various complications (bronchitis, bronchopneumonia, hemorrhagic colitis or enteritis) the number was above normal.

As regards the leucocyte count, in the majority of patients, the number of neutrophils at the peak of illness fluctuated within the normal range (9 patients), or above it (18 patients), and was rarely reduced (3 patients). Depending on the severity of illness, in this or other degree, a degenerative change to the left was observed. In most cases, at the peak of illness, the number of lymphocytes and monocytes was within normal limits or below it, and after recovery became normal or above normal.

The number of eosinophils and basophils was unchanged in most patients.

Fatal results were observed in 9 cases (30%). This high mortality can be explained by the fact that patients from rural localities entered the clinic with deeply afflicted internal organs. Death occurred most frequently in the early stages of illness.

Autopsy revealed dystrophy of the heart muscles, liver, and other organs as well as acute anemia of the organs and tissues. In single cases, almost complete absence of blood was evident in the heart cavities and in large veins. Hemorrhages in the tunica serosa (in the peritoneum), in the cavity of the middle ear, nasal cavity, lungs, skin, and pulmonary edema was noted in one case.

In 3 cases, sectional preparations were subject to histological analysis. The main changes proved to be degenerative changes in the parenchymatous organs of the granular palingenesis type, which protruded with particular vividness in the liver. As to the spleen, a picture of proliferation of the reticuloendothelial cells was observed in all cases.

SUMMARY

1. Hemorrhagic fever in Samarkand Oblast was usually observed during the summer months. The majority of patients associated their illness with sojourn in the fields and some with tickbite.

2. Most patients entered the clinic with a severe ~~(18)~~ or average-severe form of illness ~~(11)~~. The onset of illness was acute, with high temperature, headaches, malaise, rheumatic pains in the extremities, loins, and general weakness.

From the first day of illness the temperature increased to 38° - 40°C, but with the appearance of hemorrhagic syndrome it sharply decreased to normal or below, and later in most cases ~~(14)~~ continued to increase for the next 2 to 5 days. Later the temperature had, in some cases, a constant, in other cases a remittent, intermittent, or subfebrile character.

Eruptions of various sizes appeared on the body of the patients.

3. Usually on the first day of appearance of eruptions or a day before, nasal, pharyngeal, aural, and intestinal hemorrhages, sanguinolent vomiting, and in women uterine hemorrhages were noted. Hemorrhagic syndromes were less marked in the average-severe and mild cases.

4. The hemorrhagic syndromes were accompanied by affliction of the nervous and cardiovascular system as well as of the respiratory and digestive organs.

5. The number of thrombocytes decreased in all patients at the peak of illness (183 to 35.000 per cmm.). The number of leucocytes, neutrophils, lymphocytes, and monocytes fluctuated within normal or lower limits.