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Short Report

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A case of hemorrhagic septicemia in pasteurellosis

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Short report

The patient (DH 8993), a mail, 17 years old, a resident of the rural district of the Zhambyl region of Kazakhstan, participated in the cutting and butchering of farm animals. He became acutely ill on 2.12.21 (1 day of illness), - the temperature increased (up to 38), headache, weakness appeared, appetite decreased. There was vomiting. Primary skin affects appeared on the back of the right hand, lymph nodes in the right armpit area later increased, swelling of the shoulder area and restriction of movement of the right arm appeared and began to increase. He sought medical help only on the 4th day of his illness (05.12.21), to the central district hospital and was hospitalize in the surgical department. Upon admission, the condition was assessed as moderate (in our opinion, the severity of the condition at the time of hospitalization was underestimated). There was fever (38,2°C), blood pressure 120/80 mmHg, pulse 88/min. Oliguria was noted and pyeloectasia of both kidneys on ultrasound. Liver and spleen where enlarged. The presence of fluid in the abdominal cavity was determined.

On the back of the right hand there where three painful primary affects at different stages of development, the largest of them is an ulcer, 2.0 by 2.0 cm, surrounded by bright hyperemia ("flame tongue") without clear boundaries, swelling and hyperthermia of the hand. In the right axillary region, a painful conglomerate of enlarged lymph nodes was palpate, there is swelling of the axillary region and the area of the right shoulder with a transition to the neck and chest.

In the blood there where thrombocytopenia (82000/microliter), increased number of red blood cells (6.5 x 10^{12}/L), moderate leukocytosis (10.0 x 10^{9}/L), increased ESR (20 mm/h) and hypocoagulation. In the urine, protein (2,64 g/L); leukocytes (10-11 in sight); erythrocytes (23-25 in sight). Taking into account the extensive edema, oliguria, the presence of fluid in the abdominal cavity, blood thickening, changes in urine, hypocoagulation, it is possible to interpret the presence of shock and DIC syndrome of the 2nd degree in the patient. Started therapy with two antibiotics (ofloxacin and ceftriaxone) intravenous fluid injection (in the amount of 700–900 ml per day), prednisone. Despite the therapy, the patient's condition worsened – edema in the right shoulder area continued to increase, blood thicken-

ing increased, leukocytosis and hypocoagulation increased (D-dimer – 31.5) and the patient was transported by air ambulance to the regional infectious diseases hospital in Taraz city on the 6th day of illness and the 3rd day of treatment (07.12). Upon admission – temperature 37,0°C pulse 108/min; respiration – 18/min; blood pressure – 95/57 mmHg (i.e. there was shock 2-3 degrees; and DIC), liver and spleen were enlarged.

Despite the treatment, the swelling of the right shoulder area continued to increase with the transition to the chest, fluid appeared in the pleural region and its amount increased in the abdominal cavity. Ultrasound showed fluid in the pleural cavity (150 ml on the right, 120 ml on the left side); fluid in large quantities was also found in the abdominal cavity in the side pockets, between the intestinal loops and in the pelvis. In the right axillary region there was a conglomerate of enlarged lymph nodes (size – 4.8 x 5.0 cm). There were 3 painful ulcers on the right hand, on the infiltrated hyperemic base, without swelling of the hand. On the 14th day of the illness and the 11th day of treatment (15.12), the condition worsened. On ultrasound, there was fluid in the pleural cavity (500 on the right, 400 on the left side), the fluid obtained during puncture of the pleural cavity had a hemorrhagic character. In the abdominal cavity, the liquid was 2800 ml with a suspension. The X-ray determines the gas under the dome of the diaphragm in the abdominal cavity (perforation of the ulcer).

The patient was urgently transferee to the surgical department, where he underwent laparoscopy, there is hemorrhagic fluid in the abdominal cavity, an ulcerated segment of the small intestine with a perforated ulcer 15 cm long was found and removed, drainage was left. When examined by bacteriological, serological, molecular genetic and biological methods, the result is negative for a number of infections, including zoonotic infections such as Anthrax, Listeriosis, Yersinioses, Tularemia. HIV infection and Tuberculosis (including fluid from the pleural cavity) were also test with a negative result. At the same time, positive results for antibodies to Pasteurels were obtain in ELISA. As a result of the complex therapy, the patient's condition gradually improved and he was discharged with recovery. Thus, in this case we are dealing with a severe course of Pasteurellosis, manifested in the form of "hemorrhagic septicemia" - which is one of the names of Pasteurellosis infection. The infection got when cutting a sick farm animal (which is typical for Kazakhstan) by contact through skin defects (cuts and scratches) on the right hand, as a result of which primary skin affects typical of Pasteurellosis developed, passing stages of spot, papule, vesicle, pustule, ulcers, then regional axillary lymphadenitis developed, which is typical for Pasteurellosis, the primary focal complex (primary skin affect - regional lymphadenitis).

Unlike Anthrax, the primary skin affect in Pasteurellosis has pain expressed to a greater or lesser extent, a black scab does not form at the bottom of the ulcer. The ulcer is painful, juicy with hemorrhagic or purulent-hemorrhagic discharge. The swelling around the ulcer is moderate, unlike anthrax, in which the swelling around the primary skin affect can reach significant sizes. At the same time, large edema may develop around regional lymphadenitis, which can be considered a fairly specific symptom for Pasteurellosis. Similar primary skin affects and even regional lymphadenitis can develop with other infections, such as Tularemia, Listeriosis, Yersinioses (less often), as well as with Staphylococcal infection.

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