

Case report of a subadult snow leopard with serious acute shock pneumonia

Full Text:

On January 17, 1976 a snow leopard in Chongqing Zoo got serious acute shock pneumonia. This disease has not been reported in China. The following is a report on clinical manifestations, diagnosis and pathological changes in this snow leopard.

The No. 3 snow leopard was captured by Xining Zoo from Zhaduo County, Yushu Prefecture of Qinghai Province in December 1974. It got hemorrhoidal enteritis on the second day after arrival but became well with treatment. It was sent to Chongqing Zoo in September 1975. During the first year after its arrival, the snow leopard slept inside the cage during daytime and moved outside the cage at night. With a vigorous appetite, it developed normally. On January 16, 1976 its food intake was good, but on the following day it refused to take anything. That afternoon it breathed with difficulty and its excrement was pasty and greybrown. The snow leopard was therefore taken into the clinical treatment area.

CLINICAL SYMPTOMS

The disease of the snow leopard developed very fast. It took just 39 hours from the time of the snow leopard's refusal to eat to the time of its death. Clinical symptoms were present only in the early and later periods.

Early Period Symptoms -- These included refusal to take food, diarrhea, breathing difficulty, chill, vomiting and somnolence. From January 17 it refused to take food, its excrement that afternoon was pasty and greybrown and of little quantity. It vomited 5 times, each discharging a little white mucus. Body temperature was 41°C, breathing rate was about 125 times/min., with nose flapping and difficult breathing, and heart rate was 150-170 times/minute. The snow leopard never moved, but rolled onto the inside board in the dark for deep sleeping. Its muscles shivered and it coughed in a low voice with poor strength and vomit. Examined with a moist rhinoscope, abundant liquid secretion was present in the nostril and on the tongue. The snow leopard's fur was fluffy and in poor luster. With auscultation, the sound of its pulmonary abscess was low, rale, trachea spinning, and the left and right lungs had an obvious dull resonance.

Later Period Symptoms -- The snow leopard was in the state of semi-shock, sometimes deeply comatose. At 1000 hr on the 18th its body temperature went down to 36.8°C, breathing was 47 times/min., the wing of its nose continued flapping, breathing was difficult with a poor heart sound, the optical mucous membrane was darkred, and the four limbs and body were cool. Approaching the end, a pink liquid came from its oral cavity. At 0230 hr on the 19th its body temperature went below 35°C.

Laboratory Examination -- 16.5 g hemoprotein, 6,100,000/mm³ red corpuscles, 13,900/mm³ white blood cells, 8% lymph cells and 92% pheochromocytes. The symptoms of coughing, vomiting and diarrhea disappeared in the later period. The snow leopard died at 0720 hr on the 19th with fresh blood coming from its mouth.

Clinical Diagnosis -- According to the above symptoms, the snow leopard was diagnosed as having serious acute shock pneumonia.

TREATMENT

The snow leopard's disease came on very fast, and we applied treatments that included anti-shock, infection control, redressing metabolism disorder (i.e., acid poison, electrolyte, water) and medication for increasing energy. However, due to the seriousness of the disease and its rapid onset, the snow leopard died during ineffectual rescue.

PATHOLOGY

Autopsy -- There was abundant blood clotting in the throat, trachea and bronchus. The left and right lung were in pulmonary consolidation and were purplered. The diaphragm lobe showed oedema and the edge of cusp, the diaphragm lobe showed emphysema, the lung, kidney and spleen were in stasis and hyperemia, the lymph was in oedema and stasis, the stomach mucous membrane showed swelling and hyperemia, and the small intestine was full of gas.

Microtome Section Test -- Pneumonia of lung tissue hemorrhage, chronic inflammation of the intestine mucous membrane, reactive increase of lymph gland sinus, and kidney and spleen without special pathological change.

Microbiological Test -- Separated grampositive pneumonia diplococccin from blood agar plate culture medium.

DISCUSSION

The snow leopard lives in high mountain areas with severe cold weather and abundant sunshine at elevations of about 5000 m. After this individual was sent to Chongqing Zoo, with conditions of high humidity and only light frost, weak sunshine, and poor cage heating at an altitude of 300 m, the factors of cold, wind and moisture reduced its resistance to disease and pathogenic bacteria easily got a chance to make the snow leopard ill.

Because the lung tissue was in pulmonary consolidation, the function of ventilation, perfusion and diffusion was affected. This made the snow leopard breathe with difficulty and caused its mucous membrane to become dark red. The obstruction of respiratory function and the effects of bacterial toxin on the myocardia caused blood capillary dilation. At the same time, tissue was in stasis and bleeding, and the effective blood capacity was sharply reduced. Thus, the symptoms of serious acute shock pneumonia appeared.

In the later period of the shock pneumonia, because of the action of sludged blood damage, the pneumonia lung tissue bled and blood came from the nose and mouth before the snow leopard died. There was also blood clotting in the respiratory tract, which had something to do with the reduction of sludged blood function. Once we deal with the clinical symptoms, we should consider the hemostatic and maintain clearance of the respiratory tract.

Based on analyses from the clinical manifestations, pathological changes and the results of mircobiological tests, pneumonic diplococcus caused the acute shock pneumonia and this caused the snow leopard's death. Although the snow leopard is a typical alpine animal, we could not provide sufficient warmth in winter or prevent cold winds from affecting this snow leopard.

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