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GRANULOMATOUS CELL TUMOUR IN HORSE

On the basis of bibliographical data and our observations – the most frequent equine neoplasma are the skin tumours (sarcoïdes), plain cells carcinoma (carcinoma planocellulare), fibroma, melanocythoma, papilloma, fibrosarcoma and lymphoma. In respiratory tract the predominant ones are: granulomatous cell tumor, myxoma, carcinoma, adenocarcinoma, chondrosarcoma. In chest region existing mainly the pleural mesothelioma, thymoma, lymphoma. The neoplasma localised exclusively in bronchial area or pulmonary tissue existing in horses very rarely, and it's frequency index is about 0,15 to 0,62 (1,3,4,5).

Sarcoïdes are the most serious, locally skin invading neoplasm in horses. There are about 1/3 of all described equine neoplasms. Melanosarcoma originate from skin melanocytes or melanoblasts, it appears mainly in older horses, up to 15 years old, especially in grey ones. More than 80% of this horses behind 15 years old are affected. Carcinoma planocellulare are often localised in ocular region, predominantly in third eyelid, where it become the cause of erosions and ulceration. Pulmonary cell tumour or putative Schwann cell tumour is the most frequent primary pulmonary tumour affecting the horses (about 15% of all tumours existing in respiratory tract). The immunohistochemical analysis show, that this tumour primarily consist of Schwann cells with reduced cells amount (scattered nonmyelinating Schwann cells). This type of neoplasm is localised usually in right main bronchi, it exist as multiple – disseminated form or in form of mass. The tumours causes often the obstruction of bronchial lumen. The symptoms of pulmonary neoplasm in horses are not specific. There are the reduction in body weight, inflammation in respiratory tract, epistaxis. The clinical diagnosis is usually difficult, it require the additional investigations: radiological, ultrasound, endoscopy and histopathological examinations of affected tissues.

Case study

The 12 years old English whole blood mare was treated in clinic in January 2008. The animal exhibited the symptoms of pulmonary inflammation, which were confirmed with radiological examination. The symptoms yield to treatment after 10 days long therapy and the animal can go home. The rehabilitation procedure was undertaken in stable. After 10 month mare gone down and exhibited the symptoms of severe pneumonia and laminitis, so it was once more admit to clinic. The results of clinical examinations are presenting in tab. 1.

After 5 days of intensive treatment health status of the horse become better, but the animal was still not completely heal. The repeated radiologic and bronchoscope examinations were undertaken. The bronchoscope examination was

done in standing position, the horse was treat with sedation using the xylazine and butorphanol given intravenously (3ml/kg b.w; 0,025mg/kg b.w. respectively). The bronchoscope was put into the upper respiratory tract through the left nostril to the maximal deep- about 150 cm. Simultaneously, the local anaesthesia with 2% lignocaine solution on tumour region was performed. The endoscope's picture show the great, round creature which was localised in left bronchus just behind the tracheal bifurcate. This tumour was smooth, glossy, fixed, hard, non pedunculated, and it was very difficult to catch it with biopsy scissors. In bronchial space and just in front of the tumour there were the great amounts of exudates fluid containing the pus. The tumour was evacuated with bronchoscope technique using the special cutting and cauterisation surgical loop.

The excess of fluid and pus was removed simultaneously with help of additional electrical sucker netherless the bronchoscope exhaustion. The tumour was removed just after the cutting and was chocked out with no complications. The bronchus lumen exhibited patency but it was necessary to evacuate the great amounts of exudation fluid (bloody-pus). After the operation it was no complication and the histopathological examination confirmed the diagnosis- granulomatous cell tumour. (Ryc 1). Postoperative therapy include the wide spectrum antibiotic treatment through the 5 days and Flunixin 1,1 mg /kg b.w. as an analgesic, anti-inflammatory agent. The special diet was applied. The mare take a rest in stable during one week in box containing dust removed litter. The revision bonchoscopy was carried out two weeks later. The bronchus was heal up, there was no problem for air flow. The respiratory rate was better and horse self feeling was good. The clinical examinations showed that the inflammation in lung tissue was get over but sometimes the cough was noticed. Upon the left lung it was hear the diminished respiratory murmur as well as the thorax on this side was markedly sunken, but without the signs of respiratory insufficiency. Two years after operation take place the neoplasm relapse which was characterized with multiplied disseminated new tumours in lungs.

Tab.1 Biochemical and haematological examination of horse blood.

Albumins [g/l]	26	Leukocytes	9,53
Globulins [g/l]	48	[10 ⁹ /l]	
Total Protein	74	Erythrocytes	8,81
[g/l]		[10 ¹² /l]	
ALP [U/l]	235	MCV [fl]	46,7
AST [U/l]	267	Ht [%]	41,2
CK [U/l]	86	MCH [pg]	13,9
Lipase [U/l]	530	MCHC [g/dl]	29,7
Creatinine	1,41	RDW	12,0
[mg/dl]		PDW	10,5
Total bilirubin	2,3	Neutrophil [%]	9,0
[mg/dl]		PMNL [%]	50,0
		Eosinophil. [%]	1
		Lymphocyte	31
		[%]	

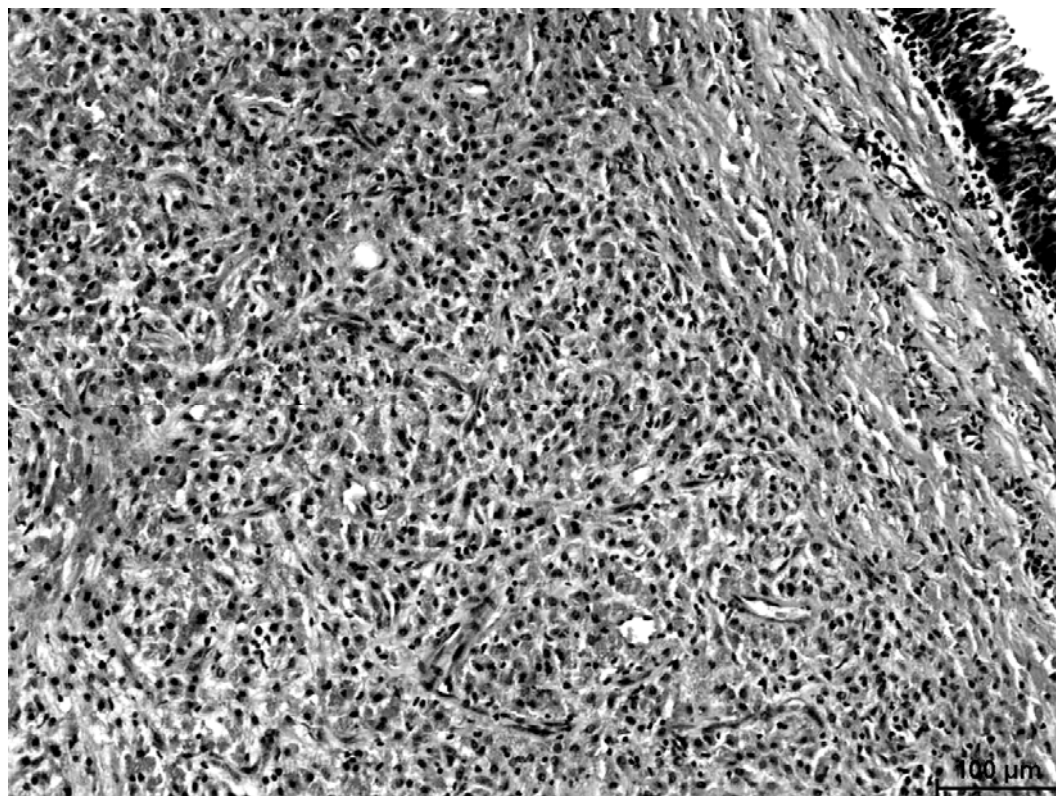


Рис. 1. Грануломатозний клітинний пухлик - гістопатологічне зображення.

Discussion

The primary tumours focuses localised in lungs are more uncommon than the metastases. The granulomatous cell tumour is the most frequent occurred primary neoplasm. The metastatic tumours there are predominantly adenocarcinoma (which primary tumour exist in kidney, ovary, thyroid and milk gland), hemangiosarcoma (localised primarily in skeletal muscles) and lymphosarcoma. Hemangiosarcoma is very rare neoplasm localised in respiratory tract, it may be localised in lung tissue as well in chest. Sundbery i Brunstein recognized and described this type of neoplasm in 2 horses among the 1322 which were examined (1,4). Hagis and Mc Elwain described only one isolated case of survival among the 4739 affected horses, which were observed in connection with diagnosis of this tumour (1,4). The most of describing cases of granulomatous cell tumours are diagnosed in young horses, about 11-13 years old. The gender and breed has no influence on frequency of occurring of this neoplasm. The characteristic signs of this illness are: diminished appetite, weight gain, occasionally fever, fatigability, cough. In some cases are noticed the lung tissue hypertrophy, osteoarthropathy, generalised movement rigidity. The therapeutic management depend on the form of neoplasm- the multiplied disseminated or single. Many authors think that partially resection of the affected lung, whereas very difficult to carrying out, may be a successful therapy. There are the papers describing a

positive therapeutically effects after local laser treatment, which were undertaken after tumour ablation using the endoscopic technique (3,4). Both the chirurgical removal of injured lung as well endoscopic ablation of tumour gives the temporary beneficial effects.

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