Histopathological Characteristics of an Ossifying Fibroma Formed in the Maxilla of a Racehorse

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A 1-year-old male thoroughbred racehorse experienced swelling of the left upper lip. The swelling was attributable to enlargement around the incisive bone of the interdental space posterior to the third incisor in the left maxilla. Even after two operations to reduce the bulk of the mass, it continued to increase in size. Dyspnea caused by stenosis of the nasal cavity forced us to perform euthanasia, and a pathological examination was conducted. Macroscopic examination of a section of the mass revealed the formation of multiple areas of solid fibrous tissue, and trabeculae within the incisive bone which had displaced the cortical bone. On histology, the mass was composed of trabecular bone-like structures due to the proliferation and aggregation of fibroblasts. Therefore, we diagnosed it as an ossifying fibroma. Equine ossifying fibroma is characterized by development in the mandible, but was formed in the maxilla in this case. Equine ossifying fibroma has not been reported previously in Japan. This is the first case of equine ossifying fibroma identified in Japan.

Key words: bone, horse, maxilla, ossifying fibroma

In the World Health Organization International Classification of Tumors of Domestic Animals, among the tumors formed in the bones of the upper alimentary system and in bones and joints, osteoma, ossifying fibroma, myxoma, and chondroma are classified as benign, while osteosarcoma, chondrosarcoma, and multilobular bone tumor are classified as malignant [3, 9]. In addition, fibrous dysplasia and craniomandibular osteopathy are classified as tumor-like lesions [3]. Osteoma, ossifying fibroma, and fibrous dysplasia, which often develop in horses, should be diagnosed carefully because of their similar histopathological morphology [9]. Ossifying fibroma has been reported in horses, cattle, cats, dogs, antelope, and sheep, and occurs at high incidence in the mandibles of young horses, [1, 2, 4–6, 8, 11]. Nevertheless, there have been no reports of equine ossifying fibroma in Japan. Here, we summarize a rare case of a horse with an ossifying fibroma formed in the left incisive bone of the maxilla that was examined histopathologically.

A male thoroughbred horse born in Hokkaido first experienced swelling of the left maxilla at the age of 1 year. Over the following 3 months, the swelling became more conspicuous, and caused serious stenosis of the left nasal cavity, which was treated by surgery to partially reduce the enlarged bone tissue. However, over the next 9 months, the left maxilla again swelled gradually, leading to dyspnea associated with obstruction of the left nasal cavity. The horse also had difficulty in chewing, owing to considerable gingival enlargement between the incisor and premolar of the left maxilla (Fig. 1). Radiography revealed that the mass was relatively solid and contained radiopaque trabecular structures (Fig. 2). Another operation was performed to remove the tissues that had formed within the enlarged incisive bone, but the mass was too large to