# A CASE OF OSSIFYING FIBROMA IN HORSE

Caso de Fribroma osificante en caballo

**Vásquez, F.A., Zilberschtein, J.*, Rodríguez, M.J.*, Pallarés, F.J., Garcés, B., Martos, N.*, Seva, J.**

Servicio de Anatomía Patológica
*Servicio de Clínica y Cirugía Equina.
Hospital Clínico Veterinario. Facultad de Veterinaria. Universidad de Murcia.
E-30071 Murcia. Spain
**Vásquez FA**: fvazquez@um.es.

**ABSTRACT**

A case of ossifying fibroma has been described in the jaw of filly of 3 months of age of Pure spanish breed. The mass, of rapid growth, was located in the pertaining to the rostral jaw region nearby to the extreme incisor tooth. The radiological image shows radiolucid limited areas and neoformation osseous, displacement of the dental pieces and projection towards the interior of bone radiodensity 3, presenting radiopaque lines. Microscopically, the superficial area has necrosis with abundant bacteria, neutrophils and vascular thromboses. The middle and deep zones present a very cellular connective tissue constituted by cells similar to fibroblast cells, and fundamental substance that shows a pre-osseous structure. Between bands of connective tissue, bony tissue perfectly differentiated with the presence of osteoblast, osteocyte and osteoclast cells are observed. The observations of the histopathologic study confirm the diagnosis of ossifying fibroma. This tumor of strange presentation in horse, in spite of it benign characteristics, presents reserved evolution and prognosis.

**Key words:** Horse- Jaw- Ossifying fibroma.

**RESUMEN**

Una potra de pura raza española de 3 meses de edad y no destetada ingresó en el Hospital Clínico Veterinario por la presencia de una masa de rápido crecimiento en la región antero-lateral mandibular derecha. Las imágenes radiológicas mostraron zonas radiolúcidas localizando la tumoración a nivel del incisivo extremo y extendiéndose 5cm dentro de la rama de la mandíbula. Macroscópicamente se observó como un crecimiento que hace protución en la boca de color marrón-grisáceo de consistencia firme extendiéndose desde el borde del incisivo extremo derecho. El análisis microscópico reveló amplias áreas de necrosis, bacterias y un

infiltrado de polimorfos nucleares neutrófilos. Otras regiones se caracterizaron por la presencia de un tejido conectivo con abundante sustancia amorfa y fibroblastos, presentando espículas óseas con osteoclastos y zonas de matriz calcificada. Fueron múltiples las imágenes mitóticas y se observó escasa anaplasia celular. Las características descriptas ofrecen datos anatomopatológicos correspondientes con un fibroma osificante, de rara presentación en equinos, si bien existen contradicciones en la bibliografía acerca de su pronóstico y evolución.

## CASE HISTORY

From January 2000 to September 2001, 520 equine cases were attended at the Veterinary Medical Teaching Hospital of the Murcia University. 43 of the 520 cases were foals. Only one of the 43 cases, a three month-old female horse of Pure raze spanish breed with growing expansive mass in the jaw.

## RESULTS

In the inspection a mass is observed, measuring 8 cm x 5 cm located in the latero-rostral region of the jaw nearby to the incisive right wing, protunding in the mouth (Fig. 1). The radiological image showed limited radiolucid areas with displacement of the dental pieces and projection towards the interior of the bone of radiodensity 3, presenting radiopaque lines (Fig. 2). Several sections of the different areas of the mass were collected for routine histological fixation and staining procedures. Paraffin-embebbed tissue was sectioned at 5 mm and stained with hematoxylin and eosin (HE) and Masson´s Trichrome. The superficial zone of the tumor presented extensive areas of necrosis with abundant bacteria, neutrophils and vascular thromboses. The middle and deep zones showed a connective very cellular with certain arrangements in linear or concentric forms around vascular structures with major or minor quantity of collagenous fibers. Tumour parenchyma is constituted by cells of elongated morphology in which a certain quantity of basophil cytoplasm and big nucleus with abundant active cromatin, and shows one or two nucleoli. Between the connective bands, zones are observed where the cells begin to form osteoide tissue and lamellas of bony containing numerous osteocytes, osteoblast and osteoclast cells (Fig 3 y 4).

## DISCUSSION

This a first case of ossifying fibroma in a filly of Pure spanish breed. The ossifying fibroma, the osteoma, the fibrous displasia, the osteosarcoma and the odontogenic tumors are a group of pathological processes of mesenquimatic origin present in the bones of different domestics species and the humans (Knottenbelt y Pascoe 1994, Knox *et al*. 1996, Nelson y Baker 1998, Noffke 1998, Pool 1990). To differentiate the clinical diagnosis, radiological observations and histopathology are necessary (Gardner 1996, Pool 1990, Wenig *et al*. 1995). Histopathologic and radiological findings confirm the diagnosis of ossifying fibroma, due to the high cellular differentiation, the spicules osteoid and the structure of the fundamental connective substance, differing hereby from the fibrous displasia, the osteoma and the osteosarcoma (Piatelli y Favia 2000, Pool 1990). The denomination of fibroma induces to a favorable prediction. Nevertheless it shows a certain variability in litic activity, rapidly and important growth, local invasion, mitotic activity and in many cases an important index of recidiva (Knottenbelt y Pascoe 1994, Noffke 1998, Pool 1990, Rooney y Robertson 1990). This information and its location in the jaw make it a reserved prognosis in Veterinary.

FIGURE 1. *Macroscopic aspect to the tumoral mass, with ulcerate areas in your surface. Barr= 1 cm.*

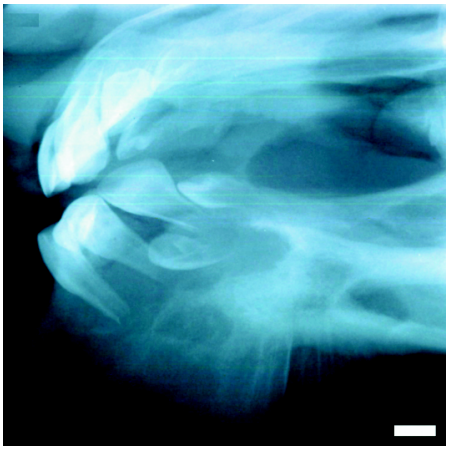

FIGURE 2. *Radiological image to the tumor showed wide base of insertion in the jaw and radiolucid areas with displacement of the dental pieces and projection towards the interior of the bone of radiodensity 3, presenting radiopaque lines. Barr = 1 cm.*

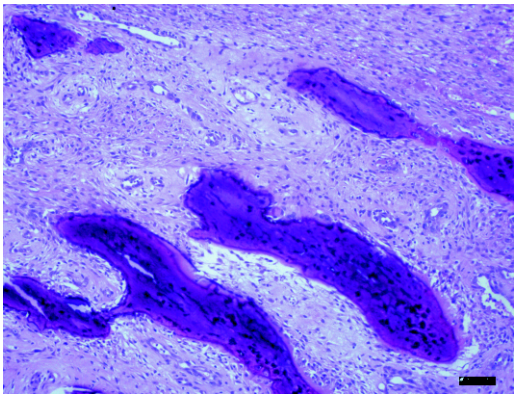

FIGURE 3. *Osseous spicules. Barr= 58 µm.*

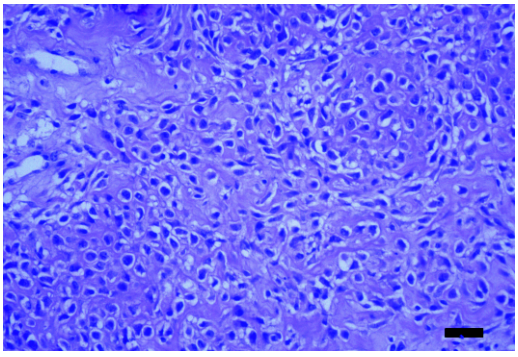

FIGURE 4. *Detail of the osteoide tissue. Barr= 20 µm.*

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