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**OSTEOCHONDRAL FRAGMENTS IN EQUINE JOINTS: DO WE HAVE TO REMOVE THEM ALL?**

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Introduction

Osteochondral fragments are commonly observed in different joints in the horse, and stifle, hock and fetlock joints are most commonly affected. The origin of these fragments is well known for certain locations but more uncertain for others. Osteochondritis dissecans (OCD) causes fragmentation at the level of the lateral femoral ridge, the distal intermediate ridge of the tibia, the lateral and medial trochlear ridge of the talus and the distal dorsal metacarpus and metatarsus. At the level of the fetlocks, proximal (dorsal and palmar/plantar) first phalanx (P1) fragments and the fragments located in the dorsal proximal synovial pad do not fit into the “OCD complex”. They can be the result of a bony detachment/fracture in early life (P1 fragments) or show a reactive pattern in the cartilage, such as for osteochondral fragments in the proximal synovial flap³⁰.

To remove or not to remove

Controversy still exists among equine practitioners about the need for surgical removal of these fragments. When osteochondral fragmentation is accompanied by clinical signs such as joint effusion and/or lameness, fragment removal is certainly indicated. Owners should however be informed that, when effusion is present for a longer period of time, complete resolution can take several months and is not always complete. When lameness is present, confirmation with intrasynovial anaesthesia is essential to demonstrate that lameness is attributed to the affected joint before removing the fragments. However, since radiographic examination has become an integral part of the pre-purchase examination in Warmblood horses, many osteochondral fragments are detected that are not associated with any clinical sign at that time.⁴³.⁵⁰ Although preventive removal of these fragments is performed very frequently, one could question about the need to do so. Final decision and recommendations are based upon the likelihood for the fragment to cause problems in the future, the intended use of the horse, its possible lower sale value and the willingness of the owner to temporarily interrupt the sportive career of his horse in case fragment removal would be indicated later on.

Tarsal fragments

For OCD fragments in the tarsus, preventive removal could possibly be delayed until the first appearance of joint effusion. Indeed, when performing arthroscopy for removal of OCD fragments of the tarsus, synovitis is the predominant abnormality observed whereas cartilage changes are rather rare. However, when fragments become free floating and are located at the level of the proximal intertarsal joint, cartilage erosions and severe localised synovitis can be observed. Moreover, detached fragments often become incorporated in the synovial capsule at the level of the intertarsal joints and can be very hard to remove arthroscopically without causing further damage to the joint capsule. Timely removal of detached fragments is therefore indicated.

Stifle fragments

For stifle OCD fragments, the same line of thought as for tarsus OCD can be followed, except that extensive OCD lesions can be accompanied by degenerative changes on the gliding surface of the patella.

Fragments of the fetlock

Osteochondral fragments in the fetlock joint can be seen at different locations. Dorsally they can originate from the proximal aspect of P1, the sagittal ridge or they can reside in the proximal synovial flap. On the palmar/plantar side, they are most commonly seen between the palmar/plantar border of P1 and the basis of the sesamoid bone (palmar/plantar osteochondral fragments (POF)). Although cartilage lesions are only seldom observed on arthroscopy for the removal of POF’s, these fragments seem to cause discomfort (low-degree lameness or decreased performance) in horses working at high speed (e.g. trotters) and removal is often effective in alleviating the symptoms. In a multicenter study (Ghent University, De Bosdreef, Tierklinik Telgte) on 117 horses with dorsoproximal P1 fragments, only 6.8% of the horses presented lameness related to the affected fetlock. However, cartilage and/or synovial abnormalities were observed on arthroscopy in 50.7% of the joints. On multivariate analysis, the presence of lameness was significantly associated both with the age of the horse (horses of 7 years and older with a dorsal P1 fragment were 13.3 times more likely to be lame compared to younger horses), and to the presence of more than 1 fragment in the joint (OR: 11.9). Although there was no association between the presence of arthroscopic abnormalities and lameness, it cannot be excluded that in the present population of mainly young horses, clinical symptoms might develop over time. A similar study was also performed on 104 horses with osteochondral fragments in the proximal synovial flap. Lameness related to the affected fetlock was only present.
in 2 older horses, but in 31.5% of the affected fetlocks, synovial and/or cartilage abnormalities were observed. Multivariate analysis showed a significant correlation between the observed arthroscopic abnormalities and the presence of large fragments. These results show that, despite the lack of clinical symptoms in the majority of the affected (young) horses, arthroscopic abnormalities are detected quite frequently on arthroscopy. This indicates that these fragments might not be innocent, although a direct causal relationship with the observed lesions has not been determined. Certainly for larger and multiple dorsal fetlock fragments, arthroscopic removal is advised at our clinic to prevent the development of (irreversible) cartilage lesions and clinical signs at a later age.

References: