

Use of arthroscopy in the treatment of fragmented medial coronoid process of the ulna: case report in a dog

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Abstract

The term elbow dysplasia (ED) describes the state of the elbow joint caused by abnormal development. The most common lesions found in the elbow joint are the fragmented medial coronoid process (FMCP) of the ulna, the osteochondritis dissecans (OCD) of the medial portion of the humeral condyle, the isolated processus anconeus (IPA) and articular incongruity (AI). The treatment for FMCP can be conservative or surgical. Surgical techniques are varied but, usually, aim at removing the affected pieces of cartilage and, or, bone from the elbow joint. This paper reports the success of the arthroscopic technique in the treatment of FMCP in a dog.

Key-words:
 Elbow Dysplasia.
 Treatment.
 Dog.

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The term elbow dysplasia (ED) describes the state of the elbow joint caused by abnormal development. The most common lesions in the elbow joint are the fragmented medial coronoid process (FMCP) of the ulna, the osteochondritis dissecans (OCD) of the medial portion of the humeral condyle and the isolated processus anconeus (IPA)^{1,2,3,4,5}. A fourth type of elbow dysplasia currently recognized is incongruity (IC), which is manifested by malalignment and malformation of the elbow joint⁵. All these secondary lesions as well as malformation itself can cause irreversible osteoarthritis and can lead to lameness and pain³. FMCP occurs more commonly in the larger breeds of dogs, although it has been reported in smaller breeds⁴. The male to female ratio is at least 2 to 1⁴. The clinical presentation of FMCP is typical of osteochondrosis. Lameness is usually first seen at four to five months of age as a transient stiffness when rising which improves initially with activity but is exacerbated by vigorous exercise. FMCP can be treated conservatively or surgically. Conservative treatment involves weight

control and regulated exercise with or without systemic non-steroidal and anti-inflammatory drugs. Surgical techniques are varied but most of them aim at removing the affected pieces of cartilage and, or, bone from the elbow joint¹. This paper reports the results of treatment of FMCP in a dog, using the arthroscopic technique.

A 8-month-old male Giant Schnauzer was referred to the teaching hospital at the University of Leipzig, Germany, with a history of lameness in the left forelimb. Clinical examinations revealed forelimb lameness, pain on full extension, inward rotation of the elbow and external rotation of the paw. It was also observed shoulder pain, probably because of simultaneous movement of the elbow. The diagnostic was made by radiographic and magnetic resonance examinations. The dog was determined to be free of any coexisting disease based on physical examination, analysis of a complete blood count and biochemical profile. Then, the animal was submitted to arthroscopy for removal of the FMCP. The dog was positioned in left lateral recumbency, with the upper limb retracted

caudally. The lower limb was prepared and draped to ensure aseptic conditions, allowing full mobility of the limb. The joint was punctured with a 19-gauge needle, between the medial humeral condyle and the proximal part of the olecranon. Synovial fluid was aspirated to ensure the intraarticular position of the needle. Fluid was injected to distend the joint; an inflow tube was attached to the needle to maintain the intraarticular flow with lactated Ringer's solution. The limb was rotated inward and abducted for magnification of the intraarticular space. This space was punctured with a 19-gauge needle, 1cm distal and 0,5 cm caudal to the medial epicondyle of the humerus. In this puncture site, a 1cm-stab incision was performed, and the arthroscopic sleeve was inserted using a sharp trocar. After perforation of the articular capsule, the trocar was replaced by a blunt obturator to move the sleeve deeper into the joint. The obturator was then replaced by the arthroscope (2,7-mm, 30°). Systematic inspection of the elbow joint was performed, and the fragmented coronoid process was visualized. Another 1 cm-stab incision was made, 1 cm cranial to the arthroscope, but still caudal to the medial collateral ligament, where the instruments

used to remove the flap was inserted. This flap was isolated with a banana-shaped knife, and then it was removed with grasping forceps. After removal, the edges of the defect and the subchondral bone were refreshed with a curette. Skin suture was performed using a monofilament nonabsorbable suture material. The animal was free to go home in the same day that the arthroscopy was performed. The limb was first used one day after arthroscopy, and no complications were observed during the post-operative period. After 3 weeks, the animal was no longer presenting lameness. The results of this case report are in agreement with the reviewed literature. Arthroscopy is a new technique that has to be expanded worldwide⁶. It's non-invasive and practical, and presents much better results than conventional arthrotomy⁷. Less trauma in the soft tissues leads to a reduction in pain, less post-operative infections and rapid function recovery. Arthroscopy offers magnified visualization of the joint, direct examination of articular surfaces⁸ and adequate lighting improves the treatment precision of articular affections. With experience, anaesthetic and surgery times and the risks of post-operative complications are reduced⁹.

Uso da artroscopia no tratamento da fragmentação do processo coronóide medial da ulna: relato de caso em cão

Resumo

O termo displasia de cotovelo (DC) descreve um estado anormal da articulação úmero-rádio-ulnar, causada por desenvolvimento inadequado da mesma. As lesões mais comumente encontradas são fragmentação do processo coronóide medial (FPCM) da ulna, osteocondrite dissecante (OCD) da porção medial do côndilo umeral, não união do processo ancôneo (NUPA) e incongruência articular (IA). O tratamento para FPCM pode ser conservativo ou cirúrgico. As técnicas cirúrgicas empregadas são variadas, mas em geral se baseiam na remoção de "flaps" cartilagosos ou ósseos da articulação. Este trabalho relata o êxito do tratamento da FPCM da ulna utilizando-se a técnica de artroscopia.

Palavras-chave:

Displasia de Cotovelo.
Tratamento.
Cão.

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