

Effect of intra-articular anesthesia as a diagnostic aid and its effect on different lesions of the medial coronoid process.

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Introduction:

Lameness in dogs is commonly associated with joint pain, therefore intra-articular anesthesia (IA) can be helpful to confirm the intra-articular localization of the problem (1). Elbow pathology, especially fragmented coronoid process (FCP), does not always show clear clinical or radiographic lesions (2). The value of IA for the diagnosis of FCP was determined by comparing the effect with the arthroscopic findings.

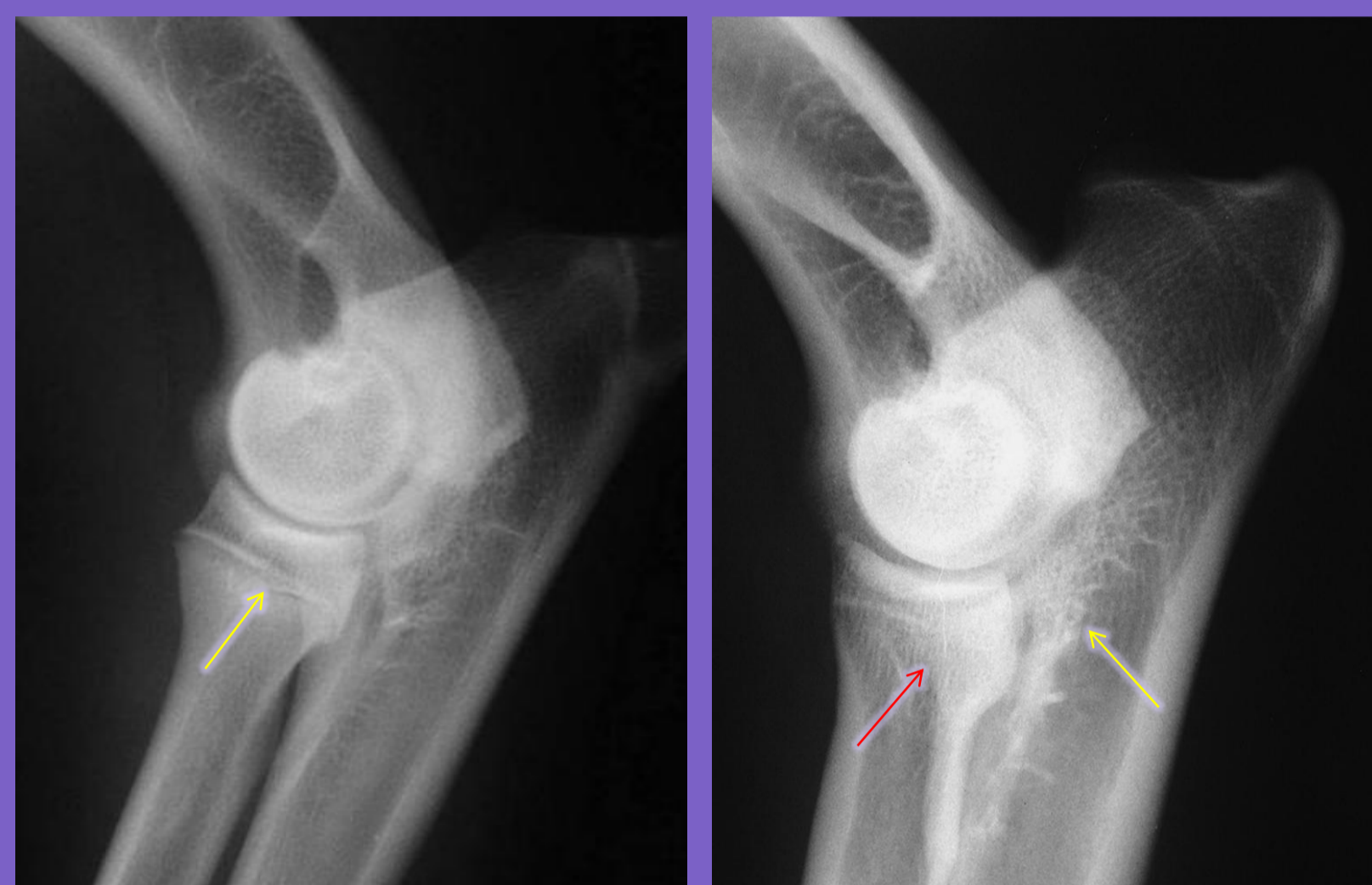


Fig 1. Examples of minimal radiographic changes in fragmented coronoid process cases. Left: young dog: coronoid process seems normal, open growth plates (yellow arrow), no arthrosis. Right: adult dog (6y) mild sclerosis (yellow arrow), unsharp delineation of medial coronoid process (red arrow), no arthrosis.

Aim:

The purpose of this study was to evaluate the use of IA in the elbow in order to point out the elbow as the source of pain and to compare the effect in different forms of FCP.

Methods:

Fifty dogs with front leg lameness with suspicion of FCP were included in this study. All dogs had inconclusive findings on clinical and radiographic examination. Diagnosis of FCP was confirmed with arthroscopy. IA was performed under sedation with acepromazine-methadone or with medetomidine and antagonization with atipamizole. Two ml of mepivacaine was injected in the elbow joint. Lameness was evaluated 2-15 minutes after injection.

Fig 2. Dog in lateral position. The needle is inserted medial to the lateral epicondylar ridge, proximal to the olecranon. After aspiration of synovial fluid the local anesthetic is injected into the elbow.



Fig 3. Mepivacaine (Scandicaine 2%) has a fast onset of action, short duration and low toxicity.

Results:

| | Positive IA | False negative IA | Total |
|---------------------------------------|-------------|-------------------|-------|
| Chondromalacia ⁽¹⁾ | 7 | 1 | 8 |
| Fissure ⁽²⁾ | 16 | 2 | 18 |
| Non displaced fragment ⁽³⁾ | 18 | | 18 |
| Displaced fragment ⁽⁴⁾ | 3 | 1 | 4 |
| Erosions ⁽⁵⁾ | 2 | | 2 |
| Total | 46 | 4 | 50 |

Effect of intra-articular anesthesia on different forms of medial coronoid lesions. Positive IA indicates the elimination of lameness. False negative IA indicates that lameness grade was not influenced, but lesions were found during arthroscopy.

Conclusion:

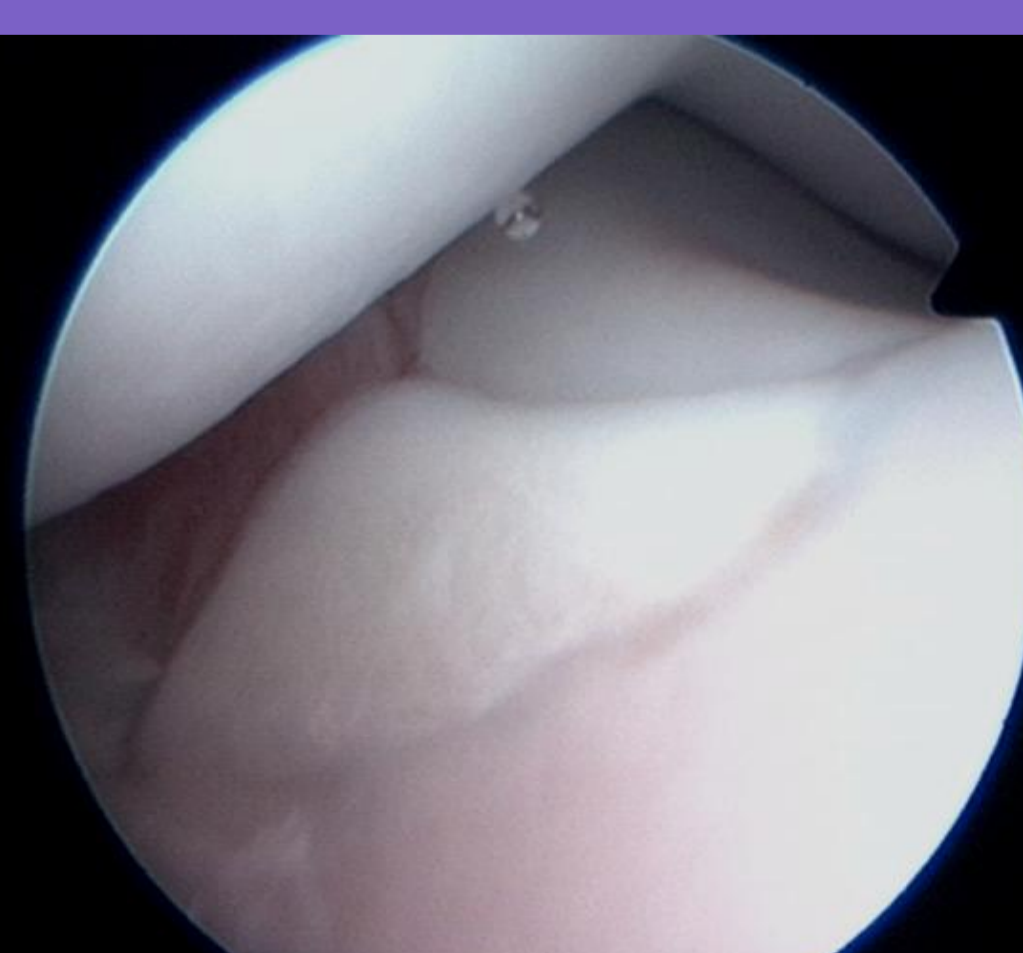
Selective intra-articular anesthetic injection provides a direct method to confirm the elbow joint as the localization of pain. All forms of FCP respond well, but results need to be assessed with care: in 8% a false negative result was noted. Discrete lesions such as chondromalacia and fissures as well as more clear lesions did sometimes not respond to the IA. In case of a positive result, lameness can be attributed to the elbow. When a negative result is obtained, other diagnostic methods such as scintigraphy should be applied to localize the problem (3).



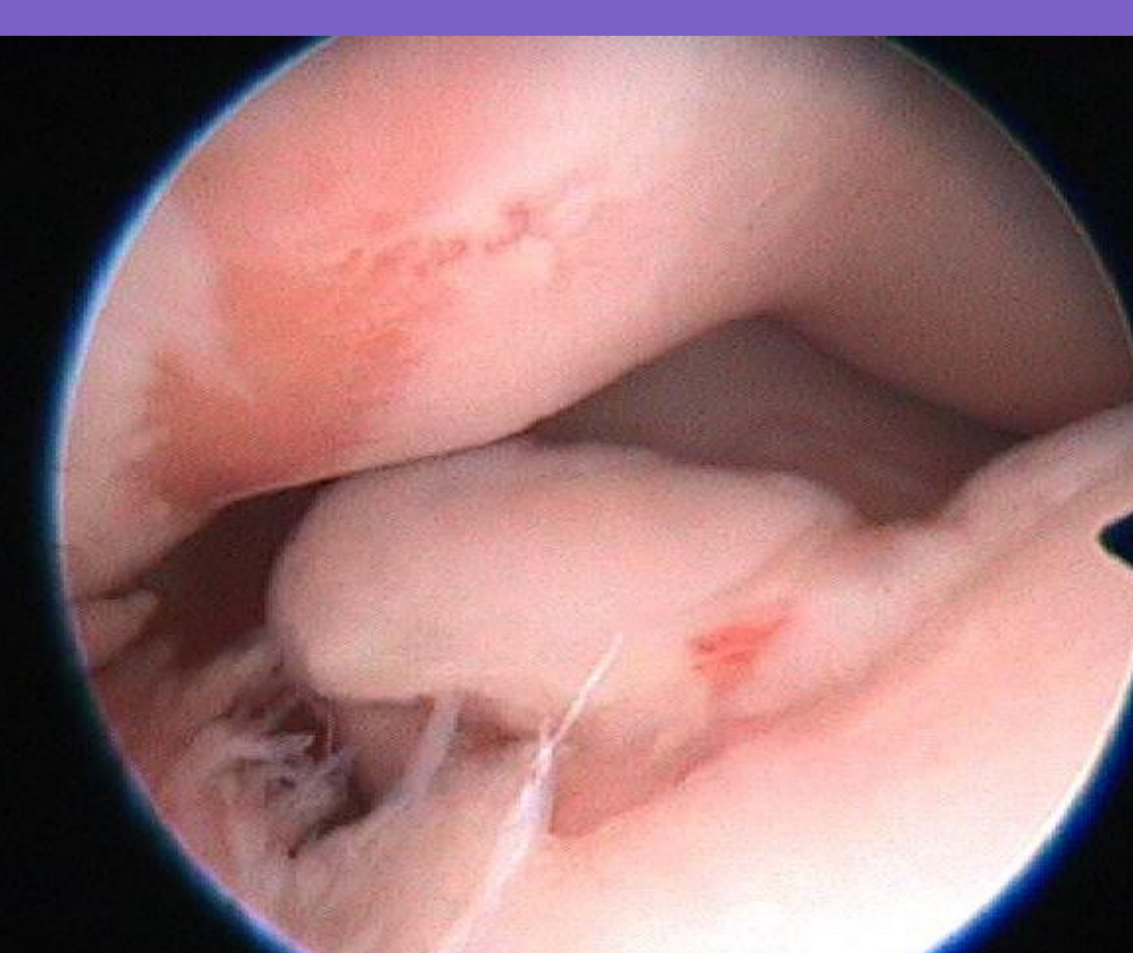
1. Chondromalacia



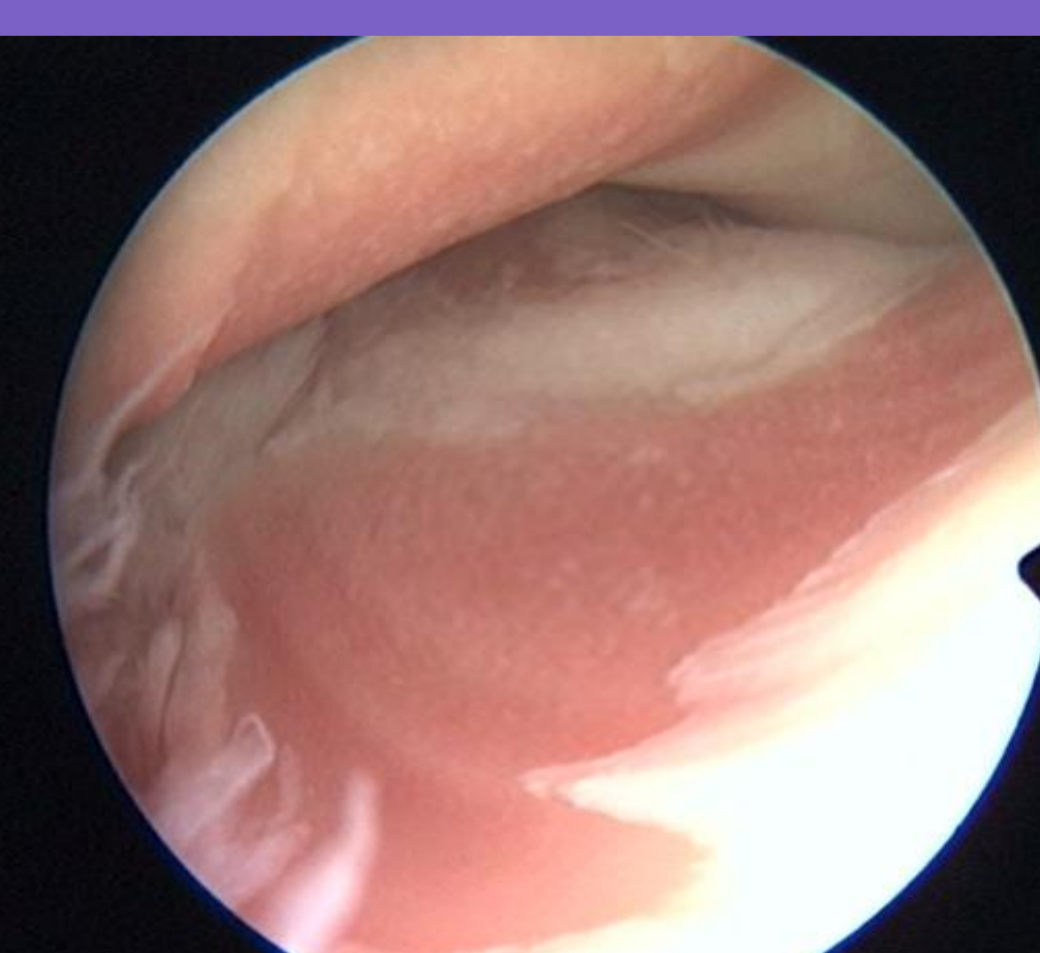
2. Fissure



3. Non displaced fragment



4. Displaced fragment



5. Erosion

References:

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