Comparison of Iopromide with Iodixanol in arthrography of shoulder in dog

Farrokhreza Kabir¹, Nadia Khaveh*², Mahmoud Akbari³

1 Assistant Professor, Radiology Department, Science and Research branch of Islamic Azad University
2 Alumni of DVM, Science and Research branch of Islamic Azad University
3 Alumni of DVSc, Radiology Department, Science and Research branch of Islamic Azad University

Email: nkhaveh@gmail.com

Objective
Iodixanol and Iopromide as two of the most common contrast media in diagnostic imaging study were compared in clinical trial base in shoulder joints to evaluate which media is better in demonstrating articular structures in preset interval times.

Design
Single-blinded randomized analytical study

Animals
Six clinically and physically healthy dogs (mixed species without consideration to their sex and age) without any signs of lameness

Procedures
For primary evaluation, two plain radiographs in lateral and Caudo-cranial positioning, from each scapulohumeral joint were obtained. Aseptic puncture with a short-bevel, 20-gauge sterile needle was performed about 1 cm below and lateral to the acromion process. About 2 mL of synovial fluid were aspirated before the injection of $140 \frac{mg}{joint}$ of the diluted contrast medium. Caudo-cranial and lateral Radiographs obtained immediately and also 5, 10 and 30 minutes after each injection. Each arthrogram was evaluated by two radiologists and a senior undergraduate veterinary student.

Results
All radiographs that were taken immediately and after five minutes of Iodixanol injection were given excellent contrast for evaluating joints in details and to be more specific about these details, the radiographs obtained five minutes after injection seems to be more accurate in some parts due to the decrease in contrast medium in joint. Except two radiographs which were gotten five minutes after injection and did not have high diagnostic value, the other arthrographs obtained with Iopromide immediately and five minutes after injection were put in excellent and good groups respectively. In all twelve radiographs taken in ten and thirty minutes after injection showed faded structures, as a soft tissue should be, due to the absorption of the contrast media. In two arthrographs Iodixanol residue could be seen, though they did not have any evaluation value.

Conclusion and Clinical Relevance
According to the data processing, it can be said that Iodixanol as a dimer contrast medium and because of its isotonic quality, can remain longer in fluid joint and as result it can give better radiographs in delayed imaging.

Key words
Arthrography, Contrast Media, Iodixanol, Iopromide, Shoulder joint of dog

References
4. Kabir FR, Masoudifard M, Vajhi AR. Comparison of Iodixanol and IoHexol in shoulder arthrography of dog. 12th Annual Conference of EAVDI. 2005, 5-8 October, Naples-Italy