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3 **CHRONIC SEPTIC ARTHRITIS OF THE CARPUS: SURGICAL APPROACH**

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7 The objective of this study was to evaluate the effectiveness of arthrodesis in surgical
8 treatment of carpal septic chronic arthritis in calves.

9 This study included Belgian Blue calves presented to the University of Liege for
10 lameness. The diagnosis was based on general and orthopaedic exams and confirmed by
11 radiography and/or ultrasonography. For arthrodesis, sedation with xylazine was performed
12 followed by a loco regional intravenous anaesthesia with a tourniquet. A dorsal circular
13 incision from the lateral to the medial side of the joint was performed. Tendons, ligaments
14 and synovial membrane were incised. The 3 articular levels of the carpus were opened. All
15 the cartilage and the damaged subchondral bone were curetted. The joint was flushed with a
16 chlorhexidine diluted solution. A cannula was placed in the joint before suturing the skin with
17 mattress sutures using a synthetic absorbable suture material. A cast including the elbow
18 joint was performed. Penicillin, gentamicine, flunixin and cefalexine (5 ml, SID, intra-
19 articular) were administered. The cast was removed 5 days postoperatively and the surgical
20 site was checked. If evolution was good, a new cast was placed and the calf was discharged.
21 The cast was changed again 3 weeks after the first recheck and a new one was placed for
22 another 3 weeks. If evolution was not satisfactory, the decision to continue the treatment or
23 not was taken with the farmer. Telephone follow up was performed 3 months after surgery.

24 Septic chronic arthritis was diagnosed in 97 calves. The mean age \pm SD was 2 ± 1.2
25 months and the mean body weight \pm SD was 74 ± 29 kg. Twenty nine septic chronic arthritis
26 of the carpus, 21 of the fetlocks, 13 of the tarsus, 11 of the stifle, 5 of the elbow, 3 of the hip,
27 2 of the intervertebral joint, 1 of the distal interphalangeal joint, 1 epiphysitis and 11
28 polyarthritis were diagnosed. Twenty two arthrodesis of the carpus were performed of which
29 15 had a good surgical outcome. Ten calves were fattened and 5 were used for breeding.

30 Arthritis of the carpus represented 30 % of all cases of arthritis in calves in this study.
31 Seventy percent of the cases of carpal arthrodesis had a good surgical outcome. Arthrodesis
32 is the best treatment for arthritis of the carpus when medical treatment and joint lavage are
33 ineffective. Arthrodesis improves prognosis and decreases economic losses related to this
34 disease.

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36 Key words: cattle, calves, arthritis, arthrodesis