

Sacroiliac Regional Analgesia and Therapy in Show Jumping Horses

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Abstract

An easy axial approach using 15 cm long spinal needles, 21-gauge to the cranial aspect of the sacral tuber and obliquely at 30 degrees to the vertical was very satisfactory for achieving successful analgesia and therapy of sacroiliac pain in show jumping horses.

Introduction

Sacroiliac joint (SIJ) disorders have been considered as a significant cause of back pain and poor performance in sport horses [1-4]. Clinical signs of SIJ ailment are often non specific and include poor performance shifting, hindlimb lameness, hind quarter asymmetry and reluctance to jump [3,5,6]. The SIJ is an atypical synovial articulation located at the osseous junction between the pelvis and the axial skeleton. The articular surfaces are located bilaterally on the ventral aspect of the ilial wing on the dorsal aspect of the sacral wing. The sacrum is firmly attached to the pelvis by the three strong paired sacroiliac ligaments which limit motion of the SIJ [7-9]. Regional anesthesia, radiography, ultrasonography, nuclear scintigraphy, thermography and kinematic evaluation have been described as useful modalities for diagnosing SIJ pathology [10-15]. Intraarticular anesthesia of the SIJ is nearly impossible because of limited access due to the overlying musculature. However, periarticular anesthesia of the SIJ can be of great benefit for diagnosing or treating sacroiliac pain [16]. The aim of this study was to demonstrate a simple feasible technique of sacroiliac regional injection for diagnostic and therapeutic purposes.

Materials and Methods

For easy and perfect accessibility of the SIJ, a frozen sacropelvic specimen of an adult horse were subjected to neighboring transverse sections of SIJ region at 3 levels to identify its structural relationships (Figure 1).



Figure 1: Transverse anatomical section of the first sacral vertebral region illustrating the the potential direct approach with the needle to SIJ

In addition, osseous construction of sacropelvic components was used to facilitate an easy access landmarks to SIJ region (Figure 2).



Figure 2: Bony components of the sacropelvis with the needle in SIJ.

Twenty six show jumping horses with suggestive sacroiliac complaint were used to try and evaluate the feasibility of diagnostic SIJ region analgesia procedure in the predetermined studied anatomical locations. The procedure was done after restraining the horse in stanchion and preparing the sacroiliac place aseptically. A 15-cm, 21-gauge needle was inserted axial to the cranial aspect of the ipsilateral tuber sacrale (left or right) according the rider's complaint side of the horse. The needle was directed obliquely and caudally at 30 degrees to the vertical plane. The needle was then advanced till contact was made with the bony surface of the sacrum.

At that point, the needle was slightly withdrawn and 20 ml of the local analgesic Mepivacaine 2%* (Alexandria Pharmaceuticals, Egypt) were distributed periarticularly. The injected horses were walked for 15 minutes before being ridden and assessed. Cases responded positively to SIJ regional analgesia were reinjected with the anti-inflammatory Kenacort 40mg* (Triamcinolone acetate) as standard therapy.

Results

The procedure proved its effectiveness in all cases without any complications. Successful diagnostic sacroiliac regional analgesia was achieved and lasted for approximately one hour. Treated cases showed marked improvement of performance and regained their athletic activity.

Discussion

In the present study, the adopted sacroiliac regional analgesia procedure was proved satisfactory and effective diagnostic tool for sacroiliac disorders without any complications. The used procedure provided a direct access to the caudo-medial aspect of SIJ and the proper depth of the needle was identified when contact was made with the sacrum. Multiple approaches to the SIJ have described [16,17]. Ultrasound guidance may facilitate SIJ injection procedure [11]. The results of diagnostic local analgesia are consistent with many authors [3,18-20]. In other studies, regional infiltration techniques have been result in a diffuse distribution of large volumes of local anesthetic solution throughout the entire lumbosacroiliac region, which is nonspecific to the SIJ and has the potential to produce false positive results [21].

Regional perfusion of the SIJ region with the anti-inflammatory (Triamcinolone acetate) for therapeutic purposes yielded satisfactory results and almost all the treated horses returned to their athletic activity shortly after injection. Almost similar results were also reported [22,23].

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