Infraspinatus Muscle/Tendon Contracture

Contracture of the infraspinatus muscle/tendon is an unusual cause of forelimb lamenss and gait abnormality primarily described in hunting dogs. There might be a history of trauma with acute onset of lameness that gradually subsides. Although the lameness may decrease, it is accompanied by a characteristic gait with persistent outward rotation, adduction of the elbow and abduction of the distal limb with a carpal flip. There is also a very limited range of motion of the shoulder. Disuse atrophy of the shoulder will be present. This deformity develops two to four weeks after the initial injury as a result of the contracture of the infraspinatus muscle. This condition is generally seen unilaterally but bilateral cases have been reported. A YouTube video demonstrating this condition can be found at : https://youtu.be/I9xEKR8JwXw

The exact cause is unknown, but it appears to be a primary muscle disorder rather than neurological in origin. Histologically affected tissues show degeneration and atrophy of skeletal muscle with fibrous tissue replacement. This correlates with the theory that an injury causes incomplete rupture of the infraspinatus muscle leading to fibrosis and contracture.

Surgical treatment involves a routine craniolateral approach to the shoulder joint. The affected infraspinatus muscle appears fibrotic with atrophy of the belly of the muscle. Blunt and sharp dissection is used to free the musculotendinous area of the scarred, fibrotic muscle from where it crosses the scapulohumeral joint. Once the fibrous tissue is freed from the joint capsule, it is incised and a short segment can be removed. This incision and resection may be in the tendon or musculotendinous capsular portion of the infraspinatus. Often a distinct popping noise may be heard when the fibrous tissue is severed and immediately the forelimb should be more easily adducted. It is important that all evidence of fibrous tissue is incised and that the range of motion of the shoulder joint is improved. Moving the joint through the full range of motion with help disrupt any further fibrous tissue. The myectomy or tenectomy provides correction of the deformity and restores normal function.

Postoperative care is minimal with only a week or two of rest and passive range of motion exercises until full use of the limb returns. The prognosis for return to full function with proper surgical care is excellent however the atrophy will be permanent.

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