

## Different Treatment of Olecranon Bursitis in Six Horses

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**Abstract:** The purpose of the study, reported here was to determine the outcome of various treatments for olecranon bursitis in horses. This study was carried out on horses (n = 6) with olecranon bursitis. All horses had a prominent swelling over the olecranon tuberosity. Four horses were treated medically using corticosteroid and peniciline combination. This treatment definitely treated 3 cases; 1 cases progressed to fibrosis and small knot remained at the region. Surgical treatment was carried out on 2 horses with olecranon bursitis (one of them bilateral olecranon bursitis). Surgery site of horses healed by primary intention and the owners of these horses were pleased with the cosmetic results. Surgical removal of bursitis was effective for the treatment of olecranon bursitis in horses. This technic provided more rapid healing and was more economical than conservative treatment.

**Key words:** Bursitis, olecranon, horse, outcome, treatment, prominent swelling

### INTRODUCTION

Bursa is a small fluid-filled sac made of white fibrous tissue and lined with synovial membrane. It provides a cushion between bones and tendons and/or muscles around a joint; bursae are filled with synovial fluid and found around almost every major joint of the body (Anteplioglu *et al.*, 1984; Pasquini *et al.*, 1996).

Bursitis, inflammation of bursa is characterized by a movable swelling over the olecranon tuberosity. The swelling caused by bursitis can be variably sized and can affect one or both forelimbs (Honnas *et al.*, 1995; Samsar and Akin, 2006).

A common cause of bursitis is direct trauma that gives rise to acute bursitis when it is severe and chronic bursitis when it is mild and repeated. Also, bacterial infection and toxemia have been reported to contribute in the development of bursitis (Honnas *et al.*, 1995; Cohen *et al.*, 2005; Fathy and Radad, 2006; Samsar and Akin, 2006). Davis and Broughton (1996) reported that brucella abortus causes prepatellar bursitis in cattle.

Acute bursitis presents as dry, serous or purulent. Chronic bursitis may follow the acute form and can be cystic, proliferative, fibrous or hemorrhagic. Moreover, chronic bursitis is characterized by accumulation of excessive bursal fluid, thickening of the wall of bursa by fibrous tissue, extrusions of fibrous bands or septa within the bursal cavity and generalized subcutaneous thickening (Anteplioglu *et al.*, 1984; Fathy and Radad, 2006).

Treatment of bursitis varies considerably. Treatment in the initial stages consisted of eliminating the cause of the trauma, cold hydrotherapy and rest (Arıcan *et al.*, 2005; Samsar and Akin, 2003, 2006). Acute bursitis is treated by aspiration of serous fluid and administration of hydrocortisone into the bursa to suppress inflammation. Antibiotics are used in cases with infection. Purulent bursitis is treated like an abscess. However, chronic bursitis is treated by applications of absorbent topically like iodine ointment, DMSO or incision of bursa with application of an irritant to its interior. Aspiration of the contents and injection of an irritant solution like iodine tincture or 3-5% carbolic acid leads to destructions of the bursal lining followed by granulation, cicatrization and obliteration of cavity (Yucel, 1992; Arıcan *et al.*, 2005; Fathy and Radad, 2006; Hayat *et al.*, 2008). But results vary. However, various complications can develop following this treatment (Yucel, 1992).

Surgical removal of the bursa has been suggested, but only when all other methods of treatment have failed (Honnas *et al.*, 1995).

The purpose of the study, reported here was to determine the outcome of various treatments for olecranon bursitis in horses.

### MATERIALS AND METHODS

This study was carried out on horses with olecranon bursitis. Median age of the horses was about 9 years (5-11 years). Breeds affected included Arabian horses (n = 4)

crossbred (n = 1) and English horse (n = 1). Four horses were females and 2 were male, five horses were affected unilateral (four on the right, one on the left) and one horse was affected bilaterally. All horses had had olecranon bursitis for a median duration of 6 months (range 4-13 months) before admission. One horse had been treated by the referring veterinarian but no recovery was observed.

All horses had a prominent swelling over the olecranon tuberosity but none of the horses were lame. Clinical examination and palpation showed that bursitis were cystic (4 on the horses) and fibrotic (2 on the horses).

Four horses were treated medically after admission by needle aspiration of fluid contents and injection of corticosteroid (40 mg methylprednisolone acetate, Depo-medrol, Eczacibasi) and penicilline (penicilline G procaine+penicilline G potassium, Devapen 800,000 Deva).

Two horses were treated surgically. One horse had had bilateral and fibrous. The other horse that had had unilateral and fibrous that it had been treated with needle aspiration of fluid contents and applied pharmaceutical agents lanced by the referring veterinarian before admission. The mass had had reduced but no complete healing was observed and there was white color knot at the region.

The horses were sedated with xylazine hydrochloride, 1.1 mg kg<sup>-1</sup> bodyweight, IV (Rompun, Bayer) The region was prepared for aseptic surgery. Approximately, 25-30 mL lidocain (Adocain, Sanovel) was injected subcutaneously around the base of the mass. An elliptical, vertical cutaneous incision was created over the lateral aspect of the mass. The mass was freed from overlying skin and subcutaneous tissue.

After removal of the mass, deep and subcutaneous tissue were closed with simple interrupted sutures. The skin was stitched apposed with a simple interrupted pattern. A spray antibiotic (Piyedif aerosol, Sanofi-Dif) was applied over the incision and the horses were remained standing for at least 2 weeks after surgery.

Surgery site of horses healed by primary intention and the owners of these horses were pleased with the cosmetic results.

## RESULTS AND DISCUSSION

In the initial stages of acute bursitis, eliminating the cause of the trauma, pressure bandage, cold hydrotherapy and rest may be applied for treatment (Arıcan *et al.*, 2005; Samsar and Akin, 2003, 2006). However, the first principle of treatment in the cystic bursitis is prevention

of further trauma to the region and aseptic needle aspiration of the contents followed by injection of corticosteroid (2 or 3 times, at weekly intervals) (Honmas *et al.*, 1995; Drezner and Sennett, 2004; Arıcan *et al.*, 2005; Durmus and Sagliyan, 2008; Hayat *et al.*, 2008).

Medical treatment of olecranon bursitis may also be effective, but treatment may be prolonged, may require multiple treatments and may result in an unacceptable cosmetic appearance (Honmas *et al.*, 1995).

In this study, this method definitely treated 3 cases; 1 cases progressed to fibrosis and small knot remained at the region.

Surgical removal of the bursa has been suggested, but only when all other methods of treatment have failed cases, especially if lesion has chronic and fibrotic character (Honmas *et al.*, 1995; Arıcan *et al.*, 2005).

Surgical removal of the bursa can result in an excellent outcome but is not without risk since wound healing problems such as infection, dehiscence and healing by second intention may result in an unacceptable cosmetic appearance (Honmas *et al.*, 1995; Van Veenendaal *et al.*, 1981; Degreef and Smet, 2006).

For surgery to be successful, the horse should remain standing for at least 2 weeks after surgery to prevent stress at the incision site (Honmas *et al.*, 1995). Because the primary cause of local trauma is difficult to control.

Owners should be informed of treatment options, complications associated with each option and the consequences of suture line dehiscence.

Surgical technic was carried out on 2 horses with olecranon bursitis (one of them bilateral olecranon bursitis).

Surgical treatment of horses with olecranon bursitis had a good outcome. The incision site healed by primary intention and the owners of the horses were pleased with the cosmetic results and it was more economical than conservative treatment.

## CONCLUSION

Surgical removal of bursitis was effective for the treatment of olecranon bursitis in horses. Because. this technic provided more rapid healing and was more economical than concervative treatment.

## REFERENCES

- Anteplioglu, H., E. Samsar and F. Akin, 1984. Veterinary General Surgery. 3rd Edn. Ankara.
- Arıcan, M., A. Kocabiyik and C. Izci, 2005. Treatment of bilateral olecranon bursitis in a horse. *Indian Vet. J.*, 82: 325.

- Cohen, S.P., J.C. Narvaez, A.H. Lebovits and M.P. Stojanovic, 2005. Corticosteroid injections for trochanteric bursitis: Is fluoroscopy necessary? A pilot study. *B.J.A.*, 94 (1): 100-106. DOI: 10.1093/bja/aei012. PMID: 15516348. <http://bja.oxfordjournals.org/cgi/content/abstract/aei012v1>.
- Davis, J.M. and S.J. Broughton, 1996. Prepatellar bursitis caused by *Brucella abortus*. *Med. J. Aust.*, 165: 460. PMID: 8913256.
- Degreef, I. and L.D. Smet, 2006. Complications following resection of the olecranon bursa. *Acta Orthop. Belg.*, 72 (4): 400-403. PMID: 17009818. <http://www.actaorthopaedica.be/acta/download/2006-4/04-Degreef%20et%20al.pdf>.
- Drezner, J.A. and B.J. Sennett, 2004. Subacromial/Subdeltoid Septic Bursitis Associated with Isotretinoin Therapy and Corticosteroid Injection. *JABFM.*, 17 (4): 299-302. PMID: 15243020. <http://www.jabfm.org/cgi/content/full/17/4/299?maxtoshow=&HITS=10&hits=10&RESULTFORMAT=&fulltext=Isotretinoin+Therapy+&andorexactfulltext=and&searchid=1&FIRSTINDEX=0&sortspec=relevance&volume=17&firstpage=299&resourceype=HWCIT>.
- Durmus, A.S. and A. Sagliyan, 2008. Bilateral cystic elbow hygroma and its treatment in a dog: A case report. *JREAR.*, 6 (2): 177-181.
- Fathy, A. and K. Radad, 2006. Surgical treatment and histopathology of different forms of olecranon and presternal bursitis in cattle and buffalo. *J. Vet. Sci.*, 7 (3): 287-291. PMID: 16871025. <http://www.vetsci.org/2006/pdf/287.pdf>.
- Hayat, A., M.C. Han and F. Sakin, 2008. Bilateral cystic elbow hygroma and its treatment in German (Shorthaired) Puanter. *JREAR.*, 7 (1): 75-77.
- Honnas, C.M., J. Schumacher and S.R. McClure *et al.*, 1995. Treatment of olecranon bursitis in horses: 10 cases (1986-1993). *J. Am. Vet. Med. Assoc.*, 206 (7): 1022-1026.
- Pasquini, C., T. Spurgeon and S. Pasquin, 1996. Chapter III Joints. 7th Edn. *Anatomy of Domestic Animals Systemic and Regional Approach*, Sudz Publishing, USA., pp: 103-113. ISBN: 0-9623114-2-1.
- Samsar, E. and F. Akin, 2003. *Veterinary General Surgery*. 1st Edn. Medipres, Malatya, pp: 285-290. ISBN: 975-6676-21-3.
- Samsar, E. and F. Akin, 2006. *Ozel Cerrahi*. 3rd Edn. Medipres, Malatya, pp: 356-364. ISBN: 975-6676-09-04.
- Van Veenendaal, J.C., V.C. Speirs and I. Harrison, 1981. Treatment of hygromata in horses. *Aust. Vet. J.*, 57 (11): 513-514. PMID: 7342936.
- Yucel, R., 1992. *Veterinary Surgery*. 1st Edn. Pethask Vet. Hekimligi Yayinlari: 2, Istanbul, pp: 290-291.