

THERAPEUTIC MANAGEMENT OF ULCERATIVE LYMPHANGITIS IN A MARE

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SUMMARY

Ulcerative lymphangitis in herbivores, especially in equine is incriminated to *Corynebacterium pseudotuberculosis* and its timely therapeutic management improves performance of the sick animals. A 10 year old Marwari mare suspected to be suffering from ulcerative lymphangitis was on medication for a period of one month but without any response. The animal was therapeutically managed by intramuscular administration of specific therapy including procaine penicillin, meloxicam and supportive therapy in recommended doses subsequent to isolation and identification of the causative pathogen.

Key words: Ulcerative lymphangitis, mare, treatment

Ulcerative lymphangitis in domestic herbivores especially equines is considered a sequel to bacterial infection(s) of the cutaneous lymphatic vessels. The causative organisms of the disease as documented in the literature are *Corynebacterium pseudotuberculosis*, *C. pyogenes*, *C. equi*, *Mannheimia haemolytica*, *Pseudomonas aeruginosa*, *Fusobacterium necrophorum* or *Streptococcus* spp. (Zavoshti *et al.*, 2009). The classical disease is incriminated to *C. pseudotuberculosis*, while other organisms are rarely associated with the clinical manifestations. The disease ultimately affects the performance of horse due to lameness and deformity of the limbs (Radostits *et al.*, 2007). We present a case of ulcerative lymphangitis in a mare and its successful therapeutic management.

A 10 year old Marwari bay colour mare was brought to the Teaching Veterinary Clinical Complex, Apollo College of Veterinary Medicine, Jaipur in September 2010 with clinical history of purulent exudate from the cutaneous abscesses spotted on the hind limbs, chest and neck (Fig. 1). In addition, the mare exhibited non-specific signs of anorexia, lethargy and weight loss. The animal did not respond to antibacterial therapy for the past more than one month. Clinical examination revealed that the animal was pyrexia and had tachycardia and tachypnea. The owner was advised to isolate the

infected mare so as to minimize spread of the disease to healthy ones in the stable. Pus sample was collected from an intact abscess under sterile conditions and was inoculated on 5% sheep blood agar and Mac-Conkey agar plates by streak plate method following the standard protocol (Quinn *et al.*, 2002). On 48 hours incubation at 37°C, the isolated bacterial colonies were further characterized (Quinn *et al.*, 2002). The organism was subjected to in-vitro antibiotic sensitivity test (ABST) using Muller Hinton agar (Hi-media) plate impregnated with oxytetracycline, ciprofloxacin, enrofloxacin, amoxicillin, ofloxacin, norfloxacin and penicillin doses. The blood sample was also processed for hematological indices (Weiss and Wardrop, 2000).

The mare was administered specific therapy based on the pathogen identified and its susceptibility to the antibiotics as evaluated by the ABST. The lesions were thoroughly washed using 0.01% potassium permanganate solution and were dressed with Povidone Iodine ("Betadine" Win Medicare Pharmaceutical Ltd. India). Besides, the animal was administered procaine penicillin ("Fortified Procaine Penicillin", Sarabhai Zydus Pharmaceutical Ltd.) @ 4 million I.U. intramuscularly, twice a day for seven days, meloxicam ("Melonex", Intas Pharmaceutical Ltd.) @ 0.5 mg/kg body weight, once a day for seven days followed by supportive intravenous therapy (normal saline solution 2 L, dextrose

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Fig 1. Cutaneous lesions on medial aspect of thigh in a mare suffering from ulcerative lymphangitis.

saline 2 L, and ringer lactate solution 1 L) for 20 days. The owner was instructed to report for clinical re-check up on day 21.

Detailed clinical examination of the mare revealed subcutaneous nodular swellings and abscesses along the course of lymphatic ducts, which were enlarged, ulcerated and oozing out creamy and/or greenish pus. Hind limbs had oedematous swelling (Fig. 1). The general condition of the mare was dull and depressed. The mare evidenced tachycardia and tachypnea. Based upon the laboratory findings including isolation and identification of small gram positive rods with the organism having a typical Chinese letter configuration in the pus samples obtained from the abscesses and/or skin lesions, the pathogen was identified as *C. pseudotuberculosis*. It was finally diagnosed to be the case of ulcerative lymphangitis. Abscesses on various locations in horses due to *C. pseudotuberculosis* have earlier been reported (Hall *et al.*, 2001). Age of mare with *C. pseudotuberculosis* infection in this study is consistent with the previous study (Pratt *et al.*, 2005). The disease generally does not occur in younger animals (<6 months).

The haematological values viz haemoglobin (13g/dL), packed cell volume (47%), total leucocyte count

(15 thousand/mm³) and differential leucocyte count (neutrophil 89%, lymphocyte 11%, eosinophil and basophil 0%) indicated leucocytosis and neutrophilia which were in agreement with the findings of Pratt *et al.* (2005). Further, ABST results revealed that the pathogen was resistant to oxytetracycline, ciprofloxacin, enrofloxacin, amoxicillin, ofloxacin, norfloxacin and was sensitive only to penicillin their by confirm in the finding of Quinn *et al.* (2002). Re-examination of the mare on day-21 post-therapy revealed that the mare responded well to the line of treatment and recovered gradually. There was no evidence of cutaneous lesions (nodules and/or abscess) on different parts of body. The mare appeared healthy and had gained weight.

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REFERENCES

- K., McCluskey, B.J. and Cunningham, W. (2001). *Corynebacterium pseudotuberculosis* infections (pigeon fever) in horses in Western Colorado: an epidemiological investigation. *J. Equine Vet. Sci.* **21**: 284-286.
- Pratt, S.M., Spier, S.J., Carrol, S.P., Vaughan, B., Whitcomb, M.B. and Wilson, W.D. (2005). Evaluation of clinical characteristics, diagnostic test results and outcome in horses with internal infection caused by *Corynebacterium pseudotuberculosis*: 30 cases (1995-2003). *J. Am. Vet. Med. Assoc.* **227**: 441-448.
- Quinn, P.J., Markey, B.K., Carter, M.E., Donnely, W.J. and Leonard, F.C. (2002). *Veterinary Microbiology and Microbial Disease*. Blackwell Science Ltd., U.K.
- Radostits, O.M., Gay, C.C., Hinchcliff, K.W. and Constable, P.D. (2007). *Veterinary Medicine*. (10th edn.), Saunders Co., Philadelphia.
- Weiss, D.J. and Wardrop, K.J. (2000). *Schalm's Veterinary Haematology*, (6th edn.), Lea and Febiger, Philadelphia.
- Zavoshti, F.R., Sioofy-Khojine, A.B. and Mahpeikar, H.A. (2009). A case report of ulcerative lymphangitis (a mini review of causes and current therapies). *Turk. J. Vet. Anim. Sci.* **33**: 525-528.