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CASEOUS LYMPHADENITIS IN GOATS: FIRST REPORT OF TWO CLINICAL CASES FROM PUNJAB (INDIA)

Syed Ashaq Hussain*, Murad Ali, Sujata Turkar, Nuzhat Hassan, Malik Rais-ul-Islam[1] and Latief Mohammed Dar[2]

Department of Veterinary Medicine, [1]Animal Disease Research Centre, Guru Angad Dev Veterinary and Animal Science University, Ludhiana Punjab - 141 004 (India);
[2]Department of Veterinary Pathology, Khalsa College of Veterinary and Animal Sciences, Amritsar, Punjab - 143 001 (India)
*email: *draashiqhussain@gmail.com*

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Caseous lymphadenitis is a sporadic bacterial disease of chronic suppurative lymphadenitis in both sheep and goats. The disease is caused by *Corynbacterium pseudotuberculosis,* a Gram positive rod which generally appears coccoid. The disease is manifested by local inflammation at the site of bacterial entrance, and abscessation of both internal and external lymph nodes (Glen, 2000). Goats are more prone to the external abscesses while sheep are more prone to internal abscesses (Baird and Fontaine, 2007). Internal abscesses are detectable only at necropsy. It is the internal abscesses that are fatal, whereas external abscesses are generally responsible for disease transmission (Ivanovic *et al.*, 2009).

Two goats were presented, separately, to Teaching Veterinary Hospital, GADVASU, Ludhiana (Punjab), India. The first goat was one year old male and the second goat was three year old female. The history revealed increased body temperature, loss of appetite, lethargy and progressive emaciation in both the cases. Duration of illness was eight days in male and eighteen days in female. The clinical examination revealed dullness and mild fever in both the cases with pre-scapular lymph nodes enlarged (Fig. 1). In female goat the submandibular lymphnodes were also enlarged. Aspirate from the pre-scapular lymphnode revealed thick white/yellow cheese-like pus (Fig. 2). The samples of pus were microbiologically examined to confirm the presence of bacteria. For isolation of bacteria, lymph node contents were inoculated on blood agar base (Merck, Darmstadt, Germany) supplemented with 5% defibrinated sheep blood and incubated aerobically for 48 h at 37˚C. Colony characteristics were noted and bacterial cells examined for their morphological characters. Routine biochemical tests i.e. catalase, urease, trehalose, maltotriose, etc. and synergistic haemolysis with *Rhodococcus equi* and antagonistic haemolysis with *Staphylococcus aureus* (Cowan and Steel, 1974) were carried out to identify the isolates. Both the goats were treated with intramuscular injections of ampicillin twice a day for one week along with supportive care (injection DNS 400 ml and injection Novalgin 1 ml, once a day for 3 days; injection Livadex fort 2 ml and half a bolus of Yeasac, once daily for 5 days).

After incubation of pus samples for 48 h at 37˚C, small, white, dry and crumbly bacterial colonies appeared on the plates. Microscopic examination revealed the presence of G +ve and small curved rod-shaped cells. On the basis of morpho-cultural properties and biochemical tests (Holt *et al.*, 1994; Quinn *et al.*, 2002), the isolated organism was identified as *Corynebacterium pseudotuberculosis*. The present finding is the first clinical report of caseous lymphadenitis in goats from Punjab. The disease has previously been reported in sheep and goat from other parts of the country (Garg and Chandiramani, 1985; Ghanbarpour and Khaleghiyan, 2005) and in cow calf from Punjab (Sood *et al.*, 2012). More extensive study is needed to screen and monitor this disease in order to reduce the losses in herd productivity. The abscessation of prescapular lymph nodes was the only clinical observation which was similar to findings of Glenn (2000). Ivanovic *et al.* (2009) and Estevao *et al.* (2007) have reported that

Fig. 1: Enlarged pre-scapular lymph nodes in goat

Fig. 2: Thick white/yellow cheese-like pus aspirated from pre-scapular lymph nodes in goat

abscessation of internal organs especially lungs is the most common feature of caseous lymphadenitis in sheep while the disease in goats is mostly exhibited by abscessation of superficial lymph nodes. On treatment with ampicillin the male goat showed clinical recovery after 10 days while female goat initially recovered from the disease (after treatment for 15 days) but recurrence of disease was reported after one month. It is reported that treatment is not usually attempted because the abscess is encapsulated, the organism is intracellular and response is very poor (Radostits *et al.*, 2007). But in present cases, complete resolution was observed in one case while recurrence of disease was observed in other. The early treatment may the possible reason for favourable outcome of that case.

Baird, G.J. and Fontaine, M.C. 2007. *Corynebacterium pseudotuberculosis* and its role in ovine caseous lymphadenitis. *Journal of Comparative Pathology*, **137**: 179-210.

Cowan, S.T. and Steel, K.J. 1974. *Cowan and Steel's Manual for the Identification of Medical Bacteria* (2nd edn). Cambridge University Press, Cambridge, UK.

Estevao, S.B., Gallardo, A., Abalos, A., Diaz, Y., Alvarez, L., Callejo, R., Preito, M., Jodor, N.O. and Jensen, O. 2007. Diagnosis of caseous lymphadenitis in sheep. *Revista Argentina de Microbiologia*, **39**: 44-46.

Garg, D.N., Nain, S.P.S. and Chandiramani, N.K. 1985. Isolation and characterization of *Corynebacterium ovis* from sheep and goats. *Indian Veterinary Journal*, **62**: 805-808.

Ghanbarpour, R. and Khaleghiyan, M. 2005. A study on caseous lymphadenitis in goats. *Indian Veterinary Journal*, **82**: 1013-1014.

Glen, J.S. 2000. Caseous lymphadenitis in goat. (*http://www.saanedoah.com/GlennCL2000. html*).

Holt, G.J., Kreig, N.R., Sneath, P.H.A., Staley, J.T. and Williams, S.T. 1994. *Bergey's Manual of Determinative Bacteriology* (9th edn.). Williams and Wilkins, Philadelpia, USA.

Ivanovic, S., Zutic, M., Pavlovic, I. and Zujovic, M. 2009. Caseous lymphadenitis in goats. *Biotechnology in Animal Husbandry*, **25**: 999-1007.

Quinn, P.J., Markey, B.K., Carter, M.E., Donnelly, W.J.C., Leonard, F.C. and Maguire, D. 2002. *Veterinary Microbiology and Microbial Diseases*. Blackwell Science Ltd., Chichester, West Sussex, UK.

Radostits, O.M., Gay, C.C., Hinchcliff, K. and Constable, P.D. 2007. *Veterinary Medicine: A Textbook of the Diseases of Cattle, Horses, Sheep, Pigs, and Goats* (10th edn.). Saunders Elsevier, Philadelphia, USA.

Sood, N.K., Sandhu, B.S., Gupta, K., Narang, D., Vasudeva, K. and Singh, N.D. 2012. Mesenteric caseous lymphadenitis in a cow calf caused by *Corynebacterium pseudotuberculosis*: A case report. *Veterinarni Medicina*, 57: 371-375.