Explor. Anim. Med. Res., Vol. 1, Issue - 2, 2012. p- 177-180

INVESTIGATION ON AFFECTED LYMPH NODES OF SHEEP COLLECTED FROM ABATTOIRS IN KOLKATA, INDIA

S.C. Rano [1], S.K. Mukhopahayay [1]*, S. Ganguly [2], D.P. Isore [3], Y.D. Singh [1] and K.S. Singh [1]

ABSTRACT : The present investigation was carried out to find out the type of abnormality in lymph nodes obtained from sheep carcass in abattoirs. Lymph nodes of various regions of body revealed gross lesions in varying degree and patterns due to infections. A remarkable percentage of lymph nodes were found to be involved in different infections which imposed an impact on the overall quality and acceptability of mutton. In the present study, it was revealed that mediastinal lymph nodes were the most affected and caseation was the most important type of lesion in the affected lymph nodes.

Key words : Caseation, Infections, Lesions, Lymph nodes, Mediastinal, Sheep carcass.

INTRODUCTION:

Post mortem examination of lymph nodes is not practiced regularly in livestock as it is majorly done for vital organs like lungs, liver, kidneys and heart for the diagnosis of different diseases. There are many existent systemic and generalized diseases in which lymph nodes are affected. Many significant bacterial diseases are there affecting livestock which possess severe damaging potential on lymph nodes. Among the bacterial agents, *Erysipelothrix rhusiopathiae* in pigs, *Pseudomonas mallei* in equines and *Bacillus anthracis* in most animals are responsible for causing lesions in lymph nodes (Sastry 1983). *Corynebacterim ovis*, *Mycobacterium ovis*, *M. tuberculosis*, *Escherichia coli*, *Streptococcus pyogenes*, *Staphylococcus aureus* and different species of Salmonellae were isolated from lymph nodes of sheep and goats (Som and Bhattacharya 1987). *Mycobacterium paratuberculosis* was isolated from lymph nodes of cattle

[1] *Department of Veterinary Pathology,*

[3] *Department of Veterinary Microbiology, Faculty of Veterinary & Animal Sciences, West Bengal University of Animal and Fishery Sciences, Kolkata 700 037, India*

[2] *AICRP-PHT (Kolkata Centre), Department of Fish Processing Technology, Faculty of Fishery Sciences, West Bengal University of Animal and Fishery Sciences, Kolkata 700 094, India,*

[*] *Corresponding Author, e-mail: skmpath@gmail.com*

Table 1. Type of lymph node lesions

Lymph node	Total number of lymph nodes examined	Total number of lymph nodes showing abnormality/lesion	Abnormality per cent (%)
Mediastinal	164	91	55.49
Superficial cervical (prescapular)	310	46	14.84
Mandibular	216	20	9.30
Mesenteric	148	56	37.80
Popliteal	126	21	16.67

(Merkel *et al.* 1987). *Pasteurella multocida* causes lymph node lesions in cattle (Wesonga *et al.* 1990). The presence of *Salmonellae* was detected in lymph nodes and other organs of cattle and goats (Dasgupta 1974). *Streptococcus equi* causes purulent lymphadenitis in horses (Vegad and Katiyar 1998).

The present study was therefore undertaken to investigate on affected lymph nodes due to various infections in sheep during post mortem examination carried out in abattoirs of Kolkata, India.

MATERIALS AND METHODS:

Lymph nodes of sheep were collected randomly from different slaughter houses in Kolkata, India. Lymph nodes of mesenteric, mediastinal, popliteal, superficial, cervical and mandibular regions were collected (May 1970) and examined as represented in Table 1.

RESULTS AND DISCUSSION:

The post mortem macroscopical examination revealed presence of pigmented (with black spots on surface), pyogenic (filled with pus), enlarged (swollen and edematous) and hemorrhagic and caseated lymph nodes respectively (Table 2).

Lymph nodes showing gross leasions were carried out in caprine species by Garai (1990) and in bovines by Maity *et al.* (1999). In the present study, mediastinal lymph nodes revealed highest percentage of occurrence of gross lesions. The finding corroborates with Guha and Sarkar (1970). Maity *et al.* (1999) and Garai (1990) showed involvement of mediastinal lymph nodes being affected with differ-

Table 2. Distribution of type of gross lesion in lymph nodes examined

Type of lesion	Number of lymph nodes examined	Per cent (%) affected
Caseated (simple)	91	38.89
Caseated (concentric rings)	9	3.85
Hemorrhagic	35	14.96
Pyogenic	11	4.70
Pigmented	8	3.42
Enlarged	80	34.19

ent pathogenic agents. Som and Bhattacharya (1987) and Garai (1990) showed involvement of lymph nodes in various infections showing enlargement, caseation, pyogenesis and hemorrhages. This observation was in accordance with the findings of present study. Runnels *et al.* (1965) stated that prescapular lymph nodes were most frequently affected followed by other lymph nodes which simulated with the findings of present study. The present study also revealed tat pyogenesis was in majority associated with mediastinal lymph nodes. Similar observation was found by Gil and Durao (1990). In the present study, mediastinal lymph nodes were found to be pigmented which was in accordance with the findings of Runnels *et al.* (1965).

ACKNOWLEDGEMENT:

The authors are thankful to Hon'ble Vice Chancellor, West Bengal University of Animal and Fishery Sciences, Kolkata, India for providing the necessary facilities to carry out this research work.

REFERENCES:

Dasgupta P. (1974). Inciudence of Salmonella in beef and goat in West Bengal and its public health significance. Indian J. Anim. Health. 13: 161-163.

Garai D. (1990). Studies on the pathology of lymph nodes in goats. M.V.Sc. thesis submitted to Bidhan Chandra Krishi Viswavidyalaya. West Bengal. India.

Gil JL and Durao JC. (1990). A colour Atlas of Meat Inspection. Wolfe Publishing Ltd. p. 227-269.

Guha AN and Sarkar PB. (1970). Study of tuberculosis amongst cattle in Calcutta. Indian Vet. J. 4: 196-200.

Maity SB, Deb P, Das R and Som TL. (1999). Pathology of lymph nodes in cattle. Indian J. Vet. Pathol. 24: 32-34.

May NDS. (1970). The Anatomy of the Sheep. 3rd edn. Brisbane, Queensland Press.

Merkel RS, Whipple DL, Sacks JM and Snyder GR. (1987). Prevalence of Mycobacerium paratuberculosis in ilio-cecal lymph nodes of cattle culled in the United States. J. American Vet. Med. Asso. 190(6): 676-680.

Sastry GA. (1983). Veterinary Pathology. 6th edn. CBS Publishers and Distributers, Delhi.

Som TL and Bhattacharya. (1987). Lymphadenitis in sheep and goats. Indian Vet. Med. J. Vol. 11: p.227-230.

Runnels RA, Monlux WS and Monlux AW. (1965). Principles of Veterinary Pathology. 7th edn. The Iowa State Univ. p. 461-470.

Vegad JL and Katiyar AK. (1998). A Textbook of Veterinary Systemic Pathology. 1st edn. Vikas Publishing House, New Delhi. p. 310-312.

Wesonga HO, Wafula JS, Kariuki DP and Wakhusama EM. (1990). A case of bovine hemorrhagic septicemia in Kenya. Bulletin of Anim. Health Pub. Africa. 38(1): 39-40.