ISOLATION OF *PASTEURILLA MULTOCIDA* FROM A DEEP PYOGENIC ABCESS IN A RAM

L. T. ZARIA, G. O. EGWU, A. G. AMBALI, and A. A. ABUBAKAR*

Faculty of Veterinary Medicine,

University of Maiduguri,

P.M.B. 1069, Maiduguri, Borno State, Nigeria.

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Pasteurella Multocida is a gram-negative rod with characteristic bipolar staining (Bergey; 1984). The organism is known to have a broad host spectrum including cattle, sheep, swine, birds and occasionally dogs, cats and human (Krishna and Kausik, 1965; Meyer, 1965; Merchant and Parket, 1967). Some reports have also incriminated this bacterium in diseases of horses and donkeys (Dan'shev, 1960; Golat; 1961; Valdes Ornelas, 1963; Pavri and Apte, 1965).

The present communication reports the isolation of *P. multocida* from a deep abscess located between the oesophagus and trachea of a Yankassa ram presented for post-mortem. The ram aged about two years from a flock of 12 animals which were semi-intensively managed. History further confirmed no new additions to the flock or changes in management practices. The said animal was reported to have died suddenly physical examination showed no evidence of external parasites or diarrhoea. The abscess was situated in between the soft tissues of the oesophagus and trachea. Following incision of the abscess, it was found to contain yellowish pus. All the other internal organs and mucous membranes showed no other apparent lesions or haemorrhages typical of haemorrhagic septicemia. Direct microscopic examination of the pus material when gram-stained, revealed gram-negative bipolar rods arranged singly or in pairs. Swabs of the pus material was further inoculated onto McConkey (CM7 agar) and defibrinated Horse blood agar (Oxoid products Basingstoke, England) and the agar plates were incubated aerobically at 37°C overnight. The plates were

examined the following day for bacterial growth. There was no growth on the McConkey agar but there was on the Horse blood agar.

The colonies observed on the Horse blood agar were non haemolytic, small, discrete, round, smooth, translucent and greyish in colour. On gram staining, the organisms were found to be gram-negative rods mostly arranged in singles or pairs with bipolar staining characteristic. The isolated organism was further subjected to biochemical tests such as effects on mannitol, lactose, maltose, oxidase, indole and urease as described by Bergey (1984). The result showed the organism to be oxidase and indole positive and it fermented only mannitol with production of acid but no gas. The bacterium did not ferment maltose and lactose and urease was negative.

Although, it is known that *P. multocida* can cause haemorrhagic septicemia in cattle, sheep and other animals, there has been no mention of its involvement in causing pyogenic abscess. Nevertheless, pasteurellosis can be localised in the head neck, throat, vulva and anal areas causing swellings (Abudulkadir, 1989). The fact that *P. multocida* was the only organism isolated from the pus material and coupled with the fact that there was no haemolysis on Horse blood and growth on MacConkey, as well as the biochemical results confirmed that the aetiological agent of the abscess was *P. multocida*. However, no further biotyping of this organism was carried out. The cause of the death of the ram was not very clear although no septicemic lesions were observed at post-mortem even though the organism *P. multocida* is known to cause septicemia in sheep (Blood *et al.*, 1983). Therefore, a possible cause of death could have been due to narrow-

*National Veterinary Research Institute, Maiduguri Branch, Maiduguri.

ing of the oesophagus or trachea since the abscess was located in between the two organs.

Furthermore, stenosis of the former is more likely as this organ is softer compared to the latter and may likely prevent normal eructation process, thereby inducing choke.

REFERENCES

- ABDULKADIR, I. (1989). *Infectious diseases of livestock in Nigeria*. Ahmadu-Bello University Press, Zaria. pp. 129.
- BERGEY'S MANUAL (1984). "Family Pasteurellaceae. In Systemic Bacteriology. Ed. Kreig, N.R. and Holt J. C. Wiltian and Wilkins. Baltimore, London.
- BLOOD, D. C., RADOSTITS, O. M. and HANDERSON, J. A. (1985). "Diseases caused by bacteria. In *Veterinary Medicine*. p. 590. Six Edit. Bailliers Tindall, London
- DAN'SHEV, I. A. (1960). *Veterinary Moscow*, 7: 46.
- GOLAT, J. (1961). *Med. Wet. Warszawa*, 17:25.
- KRISHNA, D. M. and KAUSIK, R. K. (1965). *Veterinary Rec.* 77: 411.
- MERCHANT, I. A. and PACKER, R. A. (1969). "The Genus *Pasteuralla*". In *Veterinary Bacteriology and Virology*. p. 335. The Iowa State University Press. Ames, Iowa, USA.
- MEYER, K.F. (1965). "Bacterial and Mycotic infections of man" Ed. Dubos and Hirsch. p. 659. J.B. Lippin Co Company Philadelphia.
- PAVRI, K. M. and APTE, V. H. (1967). *Veterinary Rec* 80: 437.
- VALDES ORNELAS, O. (1963). *Bull. of Int Epizt.* 60: 1059.