PASTEURELLOSIS IN TURKEYS – A CASE REPORT

Pasteurellosis has been one of the most baffling of poultry diseases. Although better sanitation programs, along with range rearing of growing birds, have brought about a reduction in the incidence of the disease, there are still many outbreaks, which are quite difficult to control. The disease usually occurs in two forms, an acute septicaemia with high morbidity and mortality rates and a chronic localised infection of joints and sinuses (Rhoades and Rimler, 1991). This article reports an incidence of acute septicaemic form of turkey pasteurellosis.

During the month of February, a flock of 18 month old bronze turkeys in University Poultry and Duck Farm, Mannuthy, Thrissur, Kerala, showed sudden death. The remaining birds showed fever, anorexia, ruffled feathers, mucous discharge from mouth and greenish white diarrhoea. Post mortem examination revealed pin point haemorrhagic lesions in the sub epicardium and multiple small focal areas of necrosis in the liver (Fig.1). The lungs were congested and consolidated (Fig.2). Catarrhal enteritis was noted in the intestine (Fig.3). The spleen was also congested (Fig.4). All other organs appeared normal. Heart blood impression smears were taken on grease free slides and stained using Leishman's stain. Heart, liver and spleen were taken for isolation and identification of the organism in the tryptone soya agar and Mac Conkey's agar. Biochemical tests like indole, ornithine decarboxylase, oxidase and catalase, citrate utilisation, sugar fermentation and nitrate reduction tests were performed from the colonies grown on tryptone soya agar.

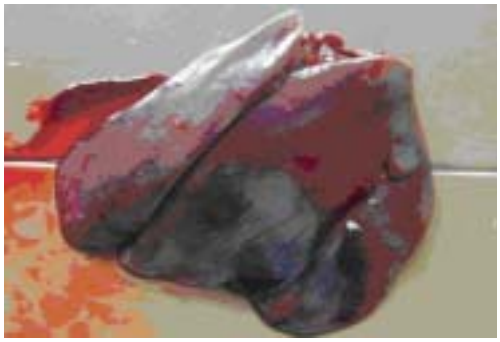

Fig 1. Multiple small focal areas of necrosis in the liver

Fig 2. Congestion and consolidation in lung

Fig 3. Catarrhal enteritis

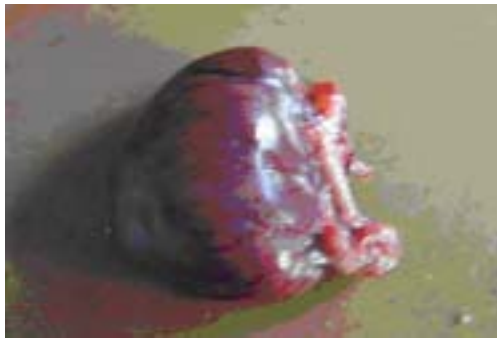

Fig 4. Spleenic congestion

Table . Biochemical test results

Sl. No	Test	Result
1.	Motility	Non-motile
2.	Indole test	Positive
3.	Citrate utilisation test	Negative
4.	Oxidase test	Positive
5.	Catalase test	Positive
6.	Growth on Mac Conkey agar	No colony formation
7.	Urease test	Negative
8.	Methyl Red Vogues Proskauer	Negative
9.	H_2S production test	Positive
10.	Nitrate reduction test	Positive
11.	**Sugar fermentation tests**	
	Arabinose	Negative
	Mannitol	Positive
	Mannose	Positive
	Galactose	Positive
	Sucrose	Positive
	Sorbitol	Positive
	Maltose	Negative
	Lactose	Negative
	Inositol	Negative
	Trihalose	Positive
	Salicin	Negative
	Xylose	Negative
	Dulcitol	Negative

Heart blood impression smears revealed the presence of bipolar stained organisms. On tryptone soya agar, smooth, convex, translucent and butyrous colonies were observed. The colonies were stained using Gram's stain and presence of Gram negative coccobacillary organisms was observed. On Mac Conkey's agar, no growth was observed. Biochemical test results were also suggestive of *Pasteurella multocida* (Table).

Based on clinical observations, necropsy findings and isolation, the case was confirmed as turkey pasteurellosis. As a management practice, the remaining birds were quarantined, removed to new cages with good litter and sanitation. Biotrim (Sulpha trimethoprim combination) at a dose rate of 20 mg/kg was given twice daily for five days intramuscularly. Groviplex (Vitamin B complex) was administered orally in the drinking water at the rate of 10 ml for 100 birds. On fifth day of treatment, the birds became active and started to take feed and water. On day six, all the birds became normal and the treatment was discontinued. Groviplex administration was continued for another week.

Pasteurella multocida infection occurred as an acute form with a mortality rate of 23.68 per cent in the flock of 18 month old turkeys within six days. Alberts and Graham (1948) reported a loss of 68 per cent within six days in a flock of 52 month old turkeys. Turkeys are most susceptible to *Pasteurella* infection than other breeds of poultry. Glisson *et al.* (1990) reported the seasonal occurrence of avian pasteurellosis in late summer, fall and winter. In the natural field infections of turkeys, the respiratory tract is probably the initial site of infection, and the lungs are more severely

involved in turkeys than in chickens (Rhoades and Rimler, 1991). Heddleston and Reisinger (1960) demonstrated that stress caused a reduction in the efficacy of vaccination. Eventhough the birds were vaccinated, the heat during the month of February might have caused high stress causing *P. multocida* which usually inhabits the respiratory system to flare up.

Summary

This article reports an incidence of acute septicaemic form of pasteurellosis in a flock of 18 month old bronze turkeys and its successful treatment.

References

Alberts, J. O. and Graham, R. 1948. Fowl cholera in turkeys. *North Am. Vet*., **29**: 24-26.

Glisson, J. R., Hofacre, C. L. and Christensen, J. P. 1990. Fowl Cholera. In : Saif, Y.M., Barnes, H.J., Glisson, J.R., Fadly, A.M., Mc Donzald, L.R., Swayne, D.E. (Eds). *Diseases of poultry*. (11th ed.) Iowa State University Press, Ames, Iowa, pp. 658-676.

Heddleston, K.L. and Reisinger, R.C. 1960. Studies on pasteurellosis. IV. killed fowl cholera vaccine adsorbed in aluminium hydroxide. *Avian Dis*., **4**:429-435.

Rhoades, K. R., and R. B. Rimler. 1991. Pasteurellosis. In: Calnek, B.W., Barnes, H.J., Beard, C.W., Reid, W.R. and Yoder, H.W. (Eds.) *Diseases of poultry.* (9th ed.)., Iowa State University Press, Ames, Iowa, pp. 145–171.

Leo Joseph[1], K. Bibu John[2] and P. Vidya[3]

University Poultry and Duck Farm
Mannuthy - 680 651,Thrissur, Kerala

❑

1. Dean, CVAS, Pookode, Wayanad
2. Ph. D. Scholar, Dept. of Veterinary Pharmacology & Toxicology
3. Academic Consultant, Dept. of Veterinary & Animal Husbandry Extension, CVAS, Pookode, Wayanad