The prevalence of histomoniasis in Chukar partridge (*Alectoris chukar*) in Iran: A case report

Abbasnia, M.[1]; Nili, H.[2]; Mayahi, M.[3] and Mohammadian, B.[4]

Received: 20.11.2016 Accepted: 04.07.2017

Abstract

Parasitic diseases are one of the limiting factors in the poultry industry especially in intensive farming systems. Histomonas meleagridis has been identified in a wide range of birds including turkey, partridge, guinea fowl, Bobwhite quail, and ostrich. The present study was done after reporting the mortality at a partridge breeding farm that was referred to the veterinary hospital of Shahid Chamran university, Iran. Clinical symptoms of the birds included drowsiness, dropping of the wings, depression and anorexia for a few days and mortality was 3.36 % in the infected farm. Microscopically, typhlitis and numerous of histomonads as a pale and ovoid bodies within lacunae in the lamina propria was observed. The birds were administered metronidazole and albendazole, which effectively controlled the histomoniasis. There are several reports about histomoniasis in partridge, but it seems this case is the first report of histomoniasis outbreak in a Chukar partridge (Alectoris chukar) farm in Iran.

Key words: Histomoniasis, Partridge, Histopathology, Iran

1- DVSc Student of Avian Diseases, Faculty of Veterinary Medicine, Shiraz University, Shiraz, Iran
2- Professor, Department of Clinical Sciences, Faculty of Veterinary Medicine , Shiraz University, Shiraz, Iran
3- Professor, Department of Clinical Sciences, Faculty of Veterinary Medicine, Shahid Chamran University of Ahvaz, Ahvaz, Iran
4- Associate Professor, Department of Pathobiology, Faculty of Veterinary Medicine, Shahid Chamran University of Ahvaz, Ahvaz, Iran
Corresponding Author: Abbasnia, M., E-mail: Abbasnia.m@shirazu.ac.ir

Refrences

Chute, A.M.; Lund, E.E. and Wilkins, G.C. (1976). Comparative responses of white leghorn and New Hampshire chickens to experimental infections with *Histomonas meleagridis* and Heterakis gallinarium. Poultry Science 55(2): 710-713.

Dolka, B.; Żbikowski, A.; Dolka, I. and Szeleszczuk P. (2015). Histomonosis - an existing problem in chicken flocks in Poland. Veterinary Research Community 39(3): 189-195.

Douglass, E.M. (1981). Histomoniasis in zoo birds. Veterinary Medicine Small Animal Clinician 76(7): 1013-1014.

Fine, P.E.M. (1975). Quantitative studies on the transmission of *Parahistomonas wenrichi* by ova of *Heterakis gallinarum*. Parasitology, 70: 407-417.

Ganapathy, K.; Salamat, M.H.; Lee, C.C. and Johara, M.Y. (2000). Concurrent oc-currence of salmonellosis, colibaccillosis and histomoniasis in a broiler flock fed with antibiotic-free commercial feed. Avian Pathology, 29: 639-642.

Hafez, H.M.; Hauck, R.; Luschow, D. and McDougald, L. (2005). Comparison of the specificity and sensitivity of PCR, nested PCR and real-time PCR for the diagnosis of histomoniasis. Avian Disease, 49(3): 366-370.

Hegngi, F.N.; Doperr, J.; Cummings, T.S.; Schwartz, R.D.; Saunders, G.; Zajac, A. et al. (1999). The effectiveness of benzimidazole derivatives for the treatment and prevention of histomonosis (blackhead) in turkeys. Veterinary Parasitology, 81: 29-37.

Hess, M. and McDougald, L.R. In: Swayne, D.E., Glisson, J.R., McDougald, L.R., Nolan, L.K., Suarez, D.L. and Nair, V. (2013). Other protozoan diseases of the intestinal tract. Diseases of Poultry, 13th ed. Iowa State University Press, Ames, Iowa. Pp: 1172-1178.

Kemp, R.L. and Reid, W.M. (1966). Staining techniques for differential diagnosis of Histomoniasis and mycosis in domestic poultry. Avian Disease 10: 357-363.

Lund, E.E. (1967). Response of four breeds of chickens and one breed of turkeys to experimental *Heterakis* and *Histomonas* infections. Avian Disese 11(3): 491-502.

Lund, E.E. and Chute, A.M. (1971). Histomoniasis in the chukar partridge. Journal of Wildlife Management, 35: 307-315.

Lund, E.E. and Chute, A.M. (1972). Reciprocal responses of eight species of Galliform birds and three parasites - *Heterakis gallinarum, Histomonas meleagridis,* and *Parahistomonas wenrichi.* Journal of Parasitology, 58: 940-945.

Malewitz, T.D.; Runnells, R.A. and Calhoun, M.L. (1958). The pathology of experimentally produced histomoniasis in turkeys. American Journal of Veterinary Research, 19: 181-185.

McDougald, L.R. (2005). Blackhead Disease (Histomoniasis) in Poultry: A Critical Review. Avian Disease, 49(4): 462-476.

McDougald, L.R. and Hu, J. (2001). Blackhead disease (*Histomonas meleagridis*) aggravated in broiler chickens by concurrent infection with cecal coccidiosis (Eimeria tenella). Avian Disease 45: 307-312.

Reis Jr, J.L.; Beckstead, R.B.; Brown, C.C. and Gerhol R.W. (2009). *Histomonas meleagridis* and Capillarid Infection in a Captive Chukar (Alectoris chukar). Avian Diseases, 53(4): 637-639.

Springer, W.T.; Johnson, J. and Reid, W.M. (1969). Transmission of histomoniasis with male *Heterakis gallinarum* (Nematoda). Parasitology, 59(2): 401-405.

[1]- Nitarsone