Study of Kidney pathological Lesion of Laying Hens in Isfahan Provence

Fathi-Hafshejani, E. and Baba Ahmadi, M. a

Received: 23.02.2018 Accepted: 18.11.2018

Abstract

Lesions of kidney caused failure and decrease the function of kidney as accumulation of uric acid (urinary nitrogen) in blood and body fluids. Subsequently, the uric acid as urate crystal precipitate in different part of body. After identification and history taking, the samples were taking from the chickens with 30-40 age weeks that dead during one week. After examination and necropsy of carcasses, the carcasses that have macroscopic lesions in kidney were sampled from kidney. In this study, from 500 samples, the microscopic lesions of kidney were been in 40% of samples that including of 21 samples by pyelonephritis, 74 samples by glomeronephritis, 105 samples by interstitial nephritis, 5 samples by interstitial nephritis and pyelonephritis and 2 samples by glomeronephritis and pyelonephritis, simultaneously. All samples have urate precipitation and some chickens have kidney stones. Results show that the highest nephropathy in studied flocks was interstitial nephritis. The chickens that were infected to infectious bronchitis in growing period have higher mortality than others. This study shows that the kidney lesions are one of main factor in decreasing of production and mortality of chickens in this flocks.

Key words: Pathologycal Lesions, Kidney, Laying hens, Isfahan

Corresponding Author: Fathi-Hafshejani, E., E-mail: ezzatfathi@yahoo.com

¹⁻ Assistant Professor, Department of Clinical Sciences, Faculty of Veterinary Medicine, Shahrekord Branch, Islamic Azad University, Shahrekord, Iran

²⁻ DVM Graduated, Faculty of Veterinary Medicine, Shahrekord Branch, Islamic Azad University, Shahrekord, Iran

Refrences

- Blaxland, J.D.; Borland, E.D.; Siller, W.G. and Martindale, L. (1980). An investigation of urolithiasis in two flocks of laying fowl. Avian Pathology, 9: 5-19.
- Brown, T.P.; Glisson, J.R. and Rosales, G. (1987). studies of avian urolithiasis associated with an infectious bronchitis virus. Avian Disease, 31(3): 629-36.
- Cowen, B.S.; Wideman, R.F. and Rothenbacher, H. (1986). An outbreak of avin urolithiasis on a large commercial egg farm. Avian Disease, 31(2): 399-7.
- Crespo, R. and Shivaprasad, H.L. (2013). Developmental, Metabolic, and other noninfectious disorders. In:Swayne, D.E., Glissson, J.R., Nolan, L.K. and Nair, V. (Eds.), Diseases of Poultry. 13th ed., Willey-Blackwell, USA, Pp: 1254-1255.
- Glahn, R.P.; Wideman, R.F. and Cowen, B.S. (1988). Effect of dietary acidification and alkalinization on urolith formation and renal function in single comb white leghorn laying hens. Poultry Science, 67(12): 1694-701.
- Hicham, S.I.D.; Amine, F. and Abdelaziz, L. (2011). Descriptive Study of an Outbreak of Avian Urolithiasis in a Large Commercial Egg Complex in Algeria. Notulae Scientia Biologicae, 3(1): 22-25.
- Krementz, D.G. and Ankney, C.D. (1995). Changes in total body calcium and diet of breeding house sparrows. Avian Biology. 26: 162-167.
- Randall, C.J. and Reece, R.L. (1996). Acolor atlas of Avian Histopathology. 1st ed. Mosby-Wolf, London:75-160.
- Rezaeian, M. (1998). Histology and Colour Atlas of Veterinary, Tehran University Press, Pp. 194-196.
- Riddell, C. (2009). Avian Histopathology Manual. 3th ed., Spiralbound American Association of Avian Pathologists, Pp: 75-160.
- Robert, F. and Wideman, J.R. (1989). Methionine Hydroxy Analog(Free Acid)Reduces Avian Kidney damage and urolithiasis Induced by Excess dietary calcium. Journal of Nutrition, Pp. 818-829.
- Schlumberger, H.G. (1959). Synovial gout in the parakeet. Laboratory Investigation, 8: 1304-1318.
- Shafey, T.M. (1993). Calcium tolerance of growing chickens effect of ratio of dietary calcium to available phosphorus. worlds Poultry Science, 49: 5-18.
- Siller, W.G. (2007). Renal pathology of the fowl-Areview. Avian Pathology, 10: 187-262.
- Singh, D.; Mcferran, J.B. and Adair, B.M. (1994). Studies on a new enterovirus-Like virus isolated from chickens. Avian Pathology, 23: 313-327.
- Soares, J.H. (1995). Phosphorous bioavailability. In: Ammerman, C. B, Baker, D. H. and Lewis, A. j. (eds) Bioavalibility of nutrients for animals: Amino acids, minerals, and vitamins. Academic press, san Digo, USA, Pp: 257-294.
- Stillmak, S.J. and Sunde, M.L. (1971). The use of high magnesium limestone in the diet of the laying hen. Poultry Scinence, 50: 553- 560.
- Tafti, A., Kh.; and Marjanmehr, H. (1997). Avian histopathology (Ridal C), 4th ed. Shiraz University Press, Pp: 141-157.
- Wideman, R.F.; Mallinson, E.T. and Rothenbacher, H. (1983). Kindey function of pullents and laying hens during outbreak of urolithiasis. Poultry Science, 62(10): 1954-70.