

Histopathological Alterations Associated with Femur Fracture in Emu

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The articles reports complicated femur fracture in emu associated with septicemia and death. The gross lesions in the vital organs with histopathological changes are also discussed.

KEYWORDS

Septicemia, emu, femur, histopathological changes, fracture.

INTRODUCTION

Leg fractures are common in ratites and its correction is difficult because of presence of easily stress able pneumatic bones. Generally long bones get fractured and cause internal exsanguinations. Secondary bacterial infection in such wound may lead to toxemia and subsequent death (McAloose, 2004). The present communication reports the death of emu due to such wound complications.

MATERIALS AND METHOD

A carcass of emu with the history of femur fracture was sent for post mortem examination at Necropsy annexe of Department of Veterinary Pathology, COVS, GADVASU, Ludhiana. Thorough necropsy was performed and representative samples of organs showing gross lesions such as heart, liver, kidney, lung and muscle were immediately taken in 10% neutral buffered formalin, embedded in paraffin wax, sectioned (4- μ m) and stained with hematoxylin and eosin (H&E) stain (Luna, 1968).

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RESULTS

Gross examination of the bird revealed the soiled wound on the thigh region. Opening of the wound showed the fractured femur. The damage to the thigh muscle was extensive with ruptured muscle tissue and presence of blood tinged yellowish exudates indicating secondary bacterial infection. On subsequent examination of body cavity showed the presence of severe congestion and hemorrhages on the vital organs like lung liver, kidney and heart. The liver was enlarged and fatty in appearance. Lungs were congested and frothy. Heart showed petechial hemorrhages on epicardium and endocardium. Kidneys were severely congested and swollen.

Histopathological examinations of the muscle revealed hemorrhages and hyalinization (Fig.1 A&B). Kidney sections showed degeneration and necrosis of tubules along with interstitial hemorrhages and occasional calcium deposits (Fig.2). Congestion and hemorrhages were observed in lungs (Fig.3). Liver showed fatty changes and coagulative necrosis in few areas (Fig.4). Myocardial degeneration besides hemorrhages was also evident (Fig.5).

DISCUSSIONS

Trauma is one of the most serious threats to animals in naturalistic habitat (Lowenstine, 1999). Injuries in case of ratites can run from simple scrapes and abrasions to serious fractures causing death (Stewart, 1997). In present case the gross and histopathological changes were suggestive of fractured wound complicated due to bacterial infection setting up septicemia and subsequent death of the bird. The care and management of the

ratites is of utmost importance for the economic farming of these birds which is in initial stage in Punjab. The long bone fracture cases should be treated carefully in case of emus which may become fatal otherwise.

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FIGURES

Fig. 1. Muscle:

A. Haemorrhages in muscle.

B. Hyalinization in muscle. H&E X20.

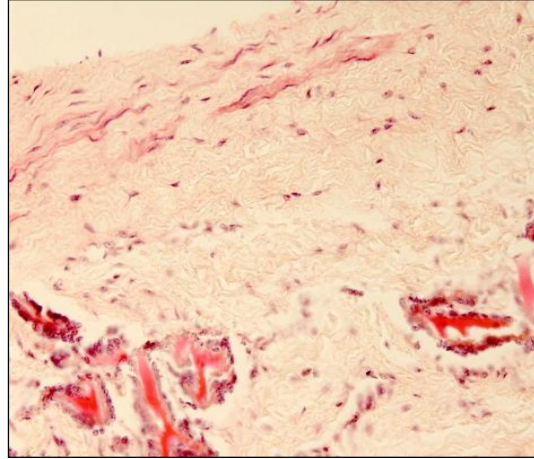
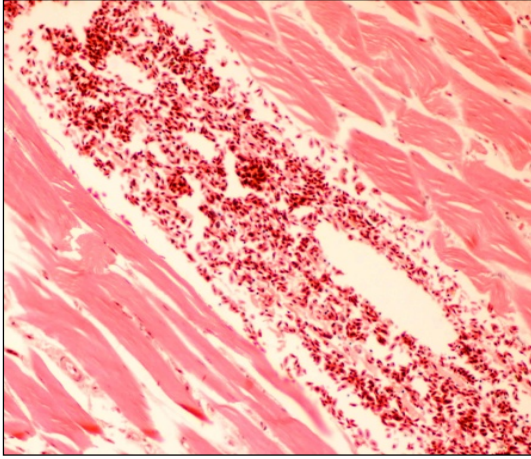


Fig. 2. Degeneration and necrosis besides interstitial haemorrhages and occasional calcium deposits in kidney. H&E X 20.

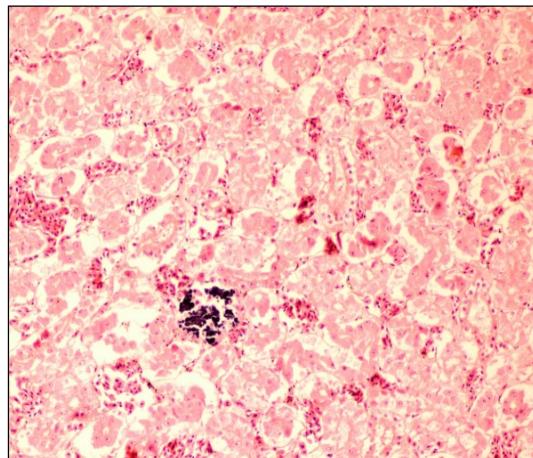


Fig. 3. Congestion and haemorrhages in lung. H&E X 20.

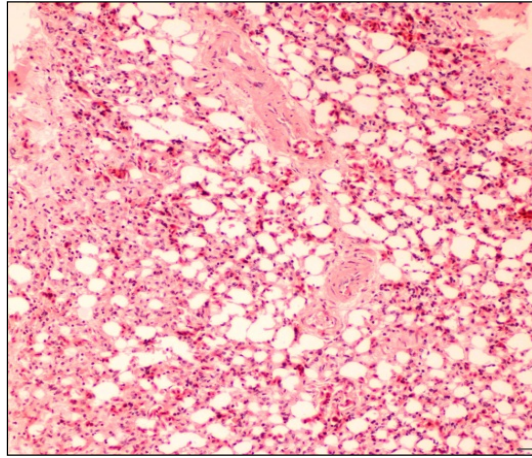


Fig.4. Lymphomononuclear cell infiltration and coagulative necrosis in liver. H&E X 40

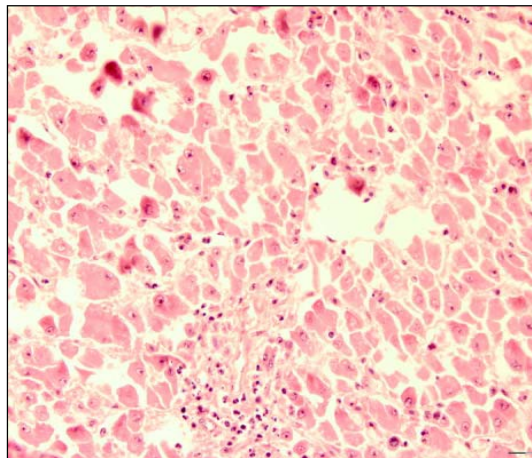


Fig. 5. Myocardial haemorrhages and degeneration. H&E X20.

