



## Letter to the Editor

# Cachexia in Broilers at Slaughterhouse. Association of Femoral Head Degeneration and Caseous Nephritis

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Dear editor,

Cachexia is one of the most important reasons for total carcass condemnation in poultry slaughterhouses in Brazil (6), and other countries (3,7), which implicates in enormous financial losses. To better understand this syndrome, gross and microscopic features of 400 cachectic carcasses were studied in a slaughterhouse under Federal Inspection in the State of Mato Grosso do Sul, Brazil. Each gross and microscopic lesion was registered in an appropriate form and classified according to literature (5). Here, the femoral head degeneration (FHD) is focused.

Liver, air sacs and skin were the most commonly affected organs, with the following frequencies: 35.8%, 26.3% and 25.5% of the examined broilers, respectively.

Out of the 400 examined carcasses, bones exhibited lesions in 51 animals (12.75%). In 40 of those cases (78.43%) had deformities; seven cases (13.72%) were due to FHD, and four (7.84%) were consolidated old fractures.

The FHD, also called femoral head necrosis and bacterial chondronecrosis with osteomyelitis, depending on the stage, is a very common disease of poultry, with a particularly high frequency in turkeys. The development of the disease begins with 21 days and the most evident lesions occur within 35 to 42 days of growth (1). However, it is rarely diagnosed in slaughterhouses because the joints are not carefully examined. FHD is often subclinical, when lesions are not apparent. Conversely, progressive lesions can culminate with necrosis, which can be considered a final stage of the disease development (1,2). FHD correlates with secondary infection caused by *Staphylococcus aureus* (4), but other authors believe that the lesion is primarily aseptic (2,4).

In this study FHD cases had detachment of the femoral epiphysis from the diaphysis, or the cartilage of the epiphysis remained attached to acetabulum, corresponding to an ankylosis. In some cases the joint was red. The presence of exudate or adherence characterized epiphysitis, probably associated with bacterial infections. FHD was not always bilateral. The observation of this lesion and the involvement of contiguous kidney, that in some cases also had caseous exudate, suggest a correlation between FHD and nephritis.

Despite of the reason, carcasses with cachexia are not used for human consumption, but some broilers may have FHD and nephritis in the absence of cachexia. In those cases, a condemnation of the affected parts may be indicated. After these observations and considering the fact that secondary infection is predominantly caused by *S. aureus* (4,5) – an important microorganism to Public Health – this study suggests that non cachectic carcasses that exhibit nephritis should not only be submitted to common techniques of deboning, but also closely examined for detection of osseous or muscular lesions, preventing that affected femur and femoral neighboring muscles may be destined to human consumption.

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