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Histopathological observations of farm animal mastitis in Al Muthanna governorate abattoir

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Abstract

Mastitis is an inflammation of the mammary gland that causes economic losses in milk production and earlier animal culling. Mastitis is associated with multiple changes, such as, physical, chemical, and microbial in milk, and various histopathological features in the udder. This study intended to investigate the histopathological findings of mastitis in abattoir in the farm animals, including cows, buffaloes, ewes, and she-goats, slaughtered in the Al-Samawa abattoir/Al Muthanna governorate. Fifty-one mammary gland tissues were collected from various slaughtered animals at Al-Samawa abattoir for two months (December 2021 -February 2022). Each udder sample was divided into small pieces and immersed in 10% neutral buffered formalin solution for histopathological processing and evaluation. The total samples of the current study were 51, which comprised of 9 cows, 10 buffaloes, 14 ewes, and 18 she-goats. The number of pregnant animals was 5, 7, 9 and 12 for cows, buffaloes, ewes, and she-goats respectively, while the number of non-pregnant cows, buffaloes, ewes, and she-goats were 4, 3, 5 and 6 respectively. The percentage of abattoir mastitis and normal animals were 100%, and 0.00 %, respectively. Degeneration, necrosis of the udder alveoli, and infiltration of mononuclear and polymorphonuclear cells were the most prominent histopathological features. The proliferation of fibrous connective tissue was also common in the interstitial glandular tissue. In conclusion, the current study approved that histopathological investigation offers a good tool for the diagnosis of mastitis. The authors suggest considering and validating udder biopsy and histopathological examinations to diagnose of mastitis in animals suspected with udder damage, before culling. It also helps to make a decision to treat and follow up the infected animals. The authors recommend future patho-epidemiological study on mastitis, to determine its actual occurrence in animals, in Iraq.

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