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Epidemiological, Bacteriological and Histopathological Studies of Mastitis in Camels (*Camelus dromedarius*) in Tumbool Abattoir, Sudan

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ABSTRACT

A cross-sectional study was conducted from January to December to estimate the overall prevalence of camel mastitis potential risk factors, to isolate, identify the bacteria associated with mastitis and histopathological picture of udder tissues in Tumbool abattoir. Out of eight hundred culled she-camels examined, 660 (85%) were adult and 140 (15%) were immature. The prevalence of clinical manifestation in adult she-camel was found to be 29.7%. Microscopic examination of 150 sections of udder showed three types of mastitis viz. Acute 33 (22%), chronic 73 (48.6%) and 44 (29.4%) were neoplastic masses. 75 out of 165 samples (45.5%) showed growth of bacterial colonies after 24 hours incubation at 37°C, with 114 bacterial isolates. The frequency of the common isolated bacteria from mastitic she-camels udder specimens were *Micrococcus* (21.05%) *Staphylococcus aureus* (10.52%) *Staph. epidermides* (6.14%) *Streptococcus pyogens* (7.02%) *Streptoagalactia* (5.26%) *strepto dysagalactia* (4.38%) *Corynebacterium* (4.38%) *E.coli* (2.63%) a *bacillus*, *Mannheimia haemolytica* and *Klebsiella pneumoniae* (0.87%). Using Pearson Chi-square or Fisher Exact test risk factor such as age, pregnancy, breed (eco-type) location, tick infestation, anti-suckling device use and bacteria isolated these showed no significant association with mastitis or tumours. The factor found significantly associated with chronic mastitis was udder texture with p value= (0.003). In these chronic cases, the likelihood of getting hard udder (chi-square = 8.423, p = 0.004) has 3.61 times more likely than the soft udder. Mastitis in camel caused by different pathogens also for the first time in this study neoplastic masses were found to play a big role in this disease, without association with different risk factor which may need more study in this field.

Keywords: mastitis, camel, bacteria, epidemiology, risk factors, Sudan.