

Macroscopic Lesions and Histological Changes Caused by Non-Biodegradable Foreign Bodies in the Rumen of Cattle

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Abstract : The goal of the current study was to evaluate the gross and histopathological changes caused by the presence of non-biodegradable foreign bodies (plastic bags) in the rumen-reticulum of cattle. To identify this problem, we conducted this study at a slaughterhouse on a total of 212 cattle without any previous selection. After slaughter and draining of the rumen, foreign bodies and macroscopic lesions were investigated, and rumen samples were taken for histopathological examination. Gross examination of the rumen-reticulum with non-biodegradable foreign bodies revealed congestion, hemorrhage, stunting, sagging, atrophy, and thinning of the papillae had been observed. Areas of erosion and ulceration were also observed in the rumen-reticulum of all cattle harboring a large quantity of plastic bags. Ulcerations and nodular formations were also present. The rumen-reticulum wall was thinner than normal and had a light-mottled wall and compressed papillae. The histopathological examination revealed a wide variety of lesions. We observed especially lesions of fragmentary or segmental ruptures, destruction, necrosis, degeneration and focal hyperplasia of the keratinized epithelium. The papillae are shortened, enlarged, atrophied, folded, and compressed. The length of the taste buds was reduced. These observed histopathological changes can be attributed to mechanical irritation induced by plastic bags or released chemicals by these non-biodegradable foreign bodies.

Keywords : cattle, non-biodegradable foreign bodies, lesions, rumen

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