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# A HISTOLOGIC AND HISTOMORPHOMETRIC STUDY OF THE SECOND STOMACH CHAMBER OF THE DROMEDARY (*Camelus dromedarius*)

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## ABSTRACT

While a number of studies on the camel stomach have been reported, major nomenclatural inconsistencies still remain in the gross and microscopic anatomical descriptions and naming of the second compartment of dromedary stomach (C2). Additionally, there is paucity of authoritative studies that have evaluated the histomorphometric and temporal variations in the thickness of the histological layers of C2. The present study was therefore done to assess the topographical relationship of C2 with the rest of the dromedary stomach, described the microanatomical characteristics of the different histological layers and further evaluated age-related histomorphometric changes in C2. Tissue samples were taken from the initial and final portions of C2 from forty-eight healthy dromedary camels of both sexes aged between 1 and 16-years-old. The tissue specimens were routinely processed and stained with haematoxylin and eosin (H&E) and the slides microscopically evaluated for histological characteristics. The thickness of the different histological layers including the mucosa, submucosa, muscularis and serosa were also assessed histomorphometrically. On the basis of the present findings, remarkable macroscopic and histologic similarities are documented between C2 and C1 of the dromedary stomach. The different anatomical layers of the initial and final portion of the C2 showed significant intergroup thickness variation ($p=0.001$) that progressively increased in an age-dependent manner.

**Key words:** Camel, dromedary, forestomach, histology, histomorphometry, second compartment