The biological structure of the dromedary camel’s adrenal gland is vital in adapting to extreme environments. The adrenal gland is one of the most important organs because it plays a significant role in the body’s activities and is essential for maintaining whole life. It regulates many physiological functions both in foetal and postnatal life (Hill, 2007). The adrenal gland is an indispensable organ that forms the hypothalamic pituitary adrenal axis (HPA), the body’s stress system. Moreover, the HPA mainly controls cortisol levels and other critical stress-related hormones (Hu and Funder, 2006; Pippal and Fuller, 2008).

The cortex mainly produces aldosterone, cortisol, and androgens responsible for regulating blood pressure, electrolyte balance, glycogen and lipid metabolism, and oestrogen biosynthesis, respectively. In contrast to the direct innervation in the medulla, the cortex is regulated by neuroendocrine hormones secreted from the pituitary gland, which are under the control of the hypothalamus as well as by the renin-angiotensin system.

The study was aimed to investigate the structure of the camel’s adrenal glands to justify the body’s importance and essentiality. A better knowledge of the morphological norms and the causes of their variations is essential for a better understanding of the physiology and a correct diagnosis and prognosis of the diseases. The detailed description of the adrenal gland of the camel needs to be more explicit. However, the lack of available literature on the mature adrenal gland of the camel has prompted this research work.

**Materials and Methods**

The adrenal glands were collected from 6 recently died adult camels from VCC, CVAS, Bikaner, Rajasthan. The recommendations of the ethical committee were followed for the present research, and an investigation of the organs was carried out in the Department of Veterinary Anatomy, CVAS, Bikaner. For light microscopic studies, the samples were fixed in 10% formalin for routine staining and in Bouin’s fluid for special staining for 48 to 72 hours. The tissues were proceeded by the Alcohol-xylene method using cedarwood oil (Thamiselvan et al, 2021), paraffin blocks were prepared, numbered, and stored at 4°C in the refrigerator. Sections of 5-6 µm thickness were obtained, placed on albumenised slides, kept overnight in a hot air oven at 36°C, and finally stained for general histomorphological observations.

**Key words:** Adrenal gland, fibres, histology, one humped camel