Seasonal Histo-morphological and Some Biochemical Study of Male One Humped Camel (Camelus Dromedarius) kidney in AL-Muthanna Province

Summary

The current work focuses on the important investigation of the kidney of local one humped male camel (Camelus Dromedarius) as a mammalian model in Al-Muthanna province. This study is carried out on twenty healthy kidney in winter and summer seasons to show the main differences in external form of kidney and the histological and physiological parameters, that will support the camel management in closed farm. The blood samples collected directly from animals for the physiological tests, to determined the variations in the level of some physiological parameters. The tissue samples were passing through the many steps of histological technique. The morphological description shows that are clear morphological differences in the shape and dimensions of camel kidney between the two seasons. The kidney in winter was less in dimensions when compared with kidney in summer. So, the outer angels were rounded in winter when compared with summer. The camel kidney was surrounded by thick connective tissue capsule, the connective tissue capsule has significant increased thickness in winter when compared with connective tissue capsule in summer. The renal corpuscle has diameter wider than the renal corpuscle in winter season. The tissue section of the cortical region in kidney noted to have wide tubular structure of nephron with prominent wide lumen in summer which is wider than the diameter of renal tubules in winter. The tissue section showed prominent spaces which divided the glomerular capillaries into many lobules inside the renal corpuscle. The biochemical notifications of blood samples showed the level of AST in summer with significant increase if compared with the level of AST enzyme in winter, while the level of ALT enzyme in blood samples did not have significant differences between the two seasons. The values of T3 and T4 in blood samples have significant increase in summer more than winter. So, there are significant differences in the level of blood urea between the two seasons