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Anatomical, morphometrical and histological properties of harderian gland in male rabbits and guinea pigs

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This study aimed to anatomically and histologically examine the Harderian gland in male rabbits and guinea pigs. For this purpose 26 adult and healthy male rabbits and 23 male guinea pigs were used. The Harderian glands were obtained from decapitated animals in sedation and examined macroscopically. For histological examination tissue samples were stained with hematoxylin following standard tissue tracking method. The harderian gland in rabbit was identified to be localized ventromedial to bulbus oculi. The horseshoe shaped gland consisted of two lobules of pink or white color. The pink lobule had a pale eosinophilic cytoplasm that recessed and separated by a slight stroma while the white lobule showed a dark eosinophilic cytoplasm. The dorso-ventral and latero-lateral lengths of the pink lobule of right Harderian gland were specified as 8.93 mm and 15.02 mm respectively while the dorso-ventral and latero-lateral lengths of the white lobule were 6.16 mm and 13.28 mm respectively. The dorso-ventral length of the pink lobule of left harderian gland was determined approximately 9.83 mm and latero-lateral length was 14.37 mm. And the dorso-ventral length of the white lobule was specified as 6.75 mm and latero-lateral length was specified as 13.68 mm. The total weight of the right and left harderian gland were found as 0.614 g and 0.610 g, respectively. When parameters of the right and left glands were compared statistically, no significant differences was observed ($p > 0.05$). The pink lobule had higher values than white lobule with regard to dorso-ventral ($p < 0.001$) and latero-lateral ($p < 0.05$) lengths. The harderian glands in guinea pigs were located caudally to the bulbus oculi, and had only one lobe. The gland was determined as pinkish-white in color and circular shaped. The approximate dorso-ventral and latero-lateral lengths of the glands situated on the right side were specified as 10.880 and 14.624 mm respectively while the approximate dorso-ventral and latero-lateral lengths of the glands situated on the left side were specified as 8.957 and 13.653 mm respectively. The mean weights of the right and left glands were specified as 0.478 g and 0.486 g, respectively. In the histological examination of harderian glands in guinea pigs, the tubuloalveolar structures surrounded by a slight stroma with a dark eosinophilic cytoplasm were detected. No statistical difference were found between the right and left glands in terms of DV and LL lengths and weight parameters. In the end of this study, several diversities of Harderian glands were observed in the male rabbits and the guinea pigs anatomically and histologically.

Biography

Ismail Demircioglu is pursuing his PhD education from Istanbul University. He is working as a Research Assistant in Harran University, Faculty of Veterinary Medicine.

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