

ABSTRAK

PERBANDINGAN STRUKTUR HISTOLOGIS DAN MORFOMETRI REN *SUGAR GLIDER (PETAURUS BREVICEPS)* JANTAN DAN BETINA

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Sugar glider (Petaurus breviceps) merupakan mamalia marsupial yang banyak diminati sebagai hewan peliharaan eksotik, namun data ilmiah mengenai karakteristik histologi ren pada spesies ini masih sangat terbatas. Penelitian ini bertujuan untuk memperoleh data primer mengenai gambaran histologi dan morfometri ren *sugar glider*. Sampel yang digunakan adalah ren yang sudah difiksasi dalam *phosphate buffer saline* formalin 10%, berasal dari dua ekor *sugar glider* jantan dan dua ekor betina. Jaringan sampel diproses dengan metode parafin. Blok parafin dipotong dengan ketebalan 3 μ m dan diwarnai *Hematoxylin-Eosin*, *periodic acid-Schiff* dan *Mallory aniline blue*. Data morfologi dianalisis secara deskriptif, sementara data morfometri dianalisis menggunakan uji Mann Whitney. Hasil pengamatan secara makroskopis menunjukkan bahwa ren *sugar glider* memiliki bentuk seperti kacang merah yang diselubungi oleh kapsula. Secara mikroskopis, ren *sugar glider* tersusun atas korteks dan medula. Pada korteks dapat ditemukan korpuskulum renalis, tubulus proksimal, dan tubulus distal. Pada medula dapat ditemukan lengkung Henle dan duktus kolektivus. Hasil pengukuran morfometri menunjukkan adanya perbedaan yang signifikan ($p < 0,05$) antara *sugar glider* jantan dan betina pada diameter korpuskulum renalis, diameter kapsula Bowman, ketebalan epitelium tubulus proksimal, dan tubulus distal. Sementara itu, diameter glomerulus, diameter lumen tubulus proksimal, dan diameter lumen tubulus distal tidak menunjukkan perbedaan yang signifikan ($p > 0,05$) antara *sugar glider* jantan dan betina.

Kata kunci: histologis, morfometri, ren, *sugar glider*

ABSTRACT

COMPARISON OF THE HISTOLOGICAL STRUCTURE AND MORPHOMETRY OF THE REN IN MALE AND FEMALE SUGAR GLIDERS (*Petaurus breviceps*)

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The sugar glider (*Petaurus breviceps*) is a marsupial that is highly sought after as an exotic pet; however, scientific data on the histological characteristics of the kidney in this species remain limited. This study aims to obtain primary data on the histological features and morphometry of the sugar glider kidney. The samples used were kidneys fixed in 10% formalin in phosphate-buffered saline, obtained from two male and two female sugar gliders. The tissue samples were processed using the paraffin method. Paraffin blocks were sectioned at a thickness of 3 μ m and stained with hematoxylin and eosin, periodic acid-Schiff, and Mallory aniline blue. Morphological data were analyzed descriptively, while morphometric data were analyzed using the Mann-Whitney test. Macroscopic observations revealed that the sugar glider's kidney is shaped like a kidney bean and is enclosed by a capsule. Microscopically, the sugar glider's kidney consists of a cortex and a medulla. The cortex contains renal corpuscles, proximal tubules, and distal tubules. In the medulla, Henle's loops and collecting ducts can be found. The results of the morphometric measurements showed significant differences ($p < 0.05$) between male and female sugar gliders in renal corpuscle diameter, Bowman's capsule diameter, and the thickness of the proximal and distal tubule epithelium. Meanwhile, glomerular diameter, proximal tubule lumen diameter, and distal tubule lumen diameter did not show significant differences ($p > 0.05$) between male and female sugar gliders.

Keywords: histology, morphometry, ren, sugar glider