

ABSTRAK

PENGARUH PAKAN FOSFOR TINGGI TERHADAP HISTOPATOLOGI GINJAL TIKUS OVARIIEKTOMI

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Asupan fosfor yang tinggi menyebabkan hiperfosfatemia dan hiperkalsemia, meningkatkan sekresi hormon paratiroid (PTH) untuk menyeimbangkan fosfor dan kalsium darah dalam kadar normal. Tingginya PTH meningkatkan aktivitas filtrasi dan reabsorpsi fosfor dan kalsium pada ginjal, fosfor diekresikan dan kalsium direabsorpsi kembali. Penelitian ini bertujuan untuk mengetahui pengaruh pakan fosfor tinggi terhadap histopatologi ginjal tikus ovariektomi.

Tikus Wistar betina umur 8 minggu dibagi dua kelompok yaitu tikus ovariektomi yang diberi pakan fosfor tinggi (T+) dan tikus ovariektomi semu yang diberi pakan standar (S+). Satu minggu pasca adaptasi lingkungan dan pakan, Tikus kelompok T+ dilakukan operasi ovariektomi dan tikus kelompok S+ dilakukan operasi ovariektomi semu. Satu hari pasca operasi, kelompok tikus T+ diberi pakan fosfor tinggi dan kelompok tikus S+ diberi pakan standar. Setelah tujuh minggu, kelompok tikus T+ dan S+ dietanasi, ginjal kiri diambil, fiksasi dalam formalin 10% untuk pembuatan preparat histopatologi dengan perwarnaan HE.

Hasil pemeriksaan histopatologi ginjal tikus S+ tidak menunjukkan perubahan, ginjal kelompok tikus T+ pada glomerulus terlihat hipertrofi, penyempitan ruang bowman, dan endapan protein, serta pada tubulus mengalami atrofi dan vakuolisasi, serta terdapat endapan. Dari hasil penelitian disimpulkan bahwa pakan fosfor tinggi selama 7 minggu menyebabkan nefrosis akut yang ditandai dengan hipertrofi glomerulus, penyempitan ruang bowman, endapan protein, pada tubulus mengalami atrofi dan vakuolisasi hingga nekrosis, dan endapan protein.

Kata kunci : fosfor tinggi, ginjal, tikus ovariektomi

ABSTRACT

THE EFFECT HIGH PHOSPHORUS FEED ON HISTOPATHOLOGICAL OVARIETOMY RAT'S KIDNEY

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High phosphorus intake causes hyperphosphatemia and hypercalcemia, increasing parathyroid hormone (PTH) secretion to balancing phosphorus and calcium in the blood. The high of PTH increases the filtration and reabsorption activity in the kidneys. Phosphorus will be secreted and calcium will be reabsorbed. Therefore this study aims to determine The effect of high phosphorus feed on histopathology of ovariectomy rat kidneys.

8 weeks old female wistar rats were grouped into two groups, ovariectomy rats fed high phosphorus (T +) and pseudo ovariectomy rats fed standard feed (S +). One week after environmental and feed adaptation, T + group Ade ovariectomy S + group were given pseudo ovariectomy. One day after surgery the group of T + rats were fed high phosphorus and the S + group of rats were given standard feed. After seven weeks, groups of T + and S + were euthanized ras, left kidney were taken, fixation in 10% formalin for histopathological preparations were stained by HE.

The histopathological examination results of S + rat kidneys showed no changes. In the kidneys of the T + mouse group, the bowman space narrowed due to glomerular hypertrophy and protein deposit, and in The tubules showed atrophy, vacuolization tubules, and there were protein deposits. From the results of the study concluded that high phosphorus feed for seven weeks caused that acute nephrosis was characterized by glomerular hypertrophy, narrowing of bowman space, protein deposits, in the tubules atrophy, vacuolization to nekrosis and protein deposits.

Keywords: High phosphorus, kidney, ovariectomy rats.