

INTISARI

PENGARUH PAKAN STANDAR TERHADAP HISTOPATOLOGIS GINJAL TIKUS DEWASA OVARIEKTOMI YANG DIBERI PAKAN FOSFOR TINGGI

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Kejadian osteoporosis banyak terjadi di Indonesia terutama pada wanita menopause dan akibat gaya hidup pola makan mengandung fosfor tinggi. Konsumsi fosfor tinggi diketahui menimbulkan permasalahan pada ginjal, oleh karena itu, penelitian ini bertujuan untuk mengetahui pengaruh pemberian pakan standar terhadap histopatologis ginjal tikus dewasa ovariektomi yang diberi pakan fosfor tinggi.

Delapan ekor tikus *Wistar* betina umur delapan minggu dibagi dua kelompok, yaitu tikus ovariektomi yang hanya diberi pakan fosfor tinggi (TK) dan tikus ovariektomi yang diberi pakan fosfor tinggi kemudian dilanjutkan pakan standar (TS). Satu minggu pasca adaptasi lingkungan, operasi ovariektomi dilakukan pada tikus TK dan TS. Satu hari pasca ovariektomi, kelompok tikus TK dan TS diberi pakan fosfor tinggi selama tujuh minggu. Setelah tujuh minggu, kelompok tikus TK tetap diberi pakan fosfor tinggi dan tikus TS diberi pakan standar selama 5 minggu. Pada akhir perlakuan, seluruh tikus dietanasi, kemudian ginjal kiri diambil dan difiksasi dengan formalin 10% untuk pemeriksaan histopatologis dengan pewarnaan Hematoksilin Eosin.

Hasil pemeriksaan histopatologis ginjal tikus TK menunjukkan hipertrofi glomerulus, epitel tubulus mengalami atrofi, vakuolisasi hingga nekrosis, dan terdapat endapan protein pada glomerulus dan lumen tubulus. Histopatologis ginjal tikus TS menunjukkan glomerulus mendekati normal, epitel tubulus mengalami atrofi dan vakuolisasi namun tidak terlihat adanya nekrosis, serta terlihat adanya endapan protein pada lumen tubulus. Kesimpulan, pemberian pakan standar pada tikus dewasa ovariektomi setelah diberi pakan fosfor tinggi secara histopatologis menunjukkan ada perbaikan ginjal tetapi masih terlihat nefrosis akut.

Kata Kunci: Fosfor tinggi, ginjal, tikus ovariektomi

ABSTRACT

THE EFFECT OF STANDART DIET TOWARD HISTOPATHOLOGIC OF KIDNEY IN OVARIECTOMIZED RATS WHICH GIVEN HIGH PHOSPHORUS DIET

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The incidence of osteoporosis in Indonesia is high due to menopause and high phosphorus intake. The high consumption of phosphorus is known to cause problems in kidney, therefore, this was aimed to study the effect of standart diet toward histopathologic of kidney in ovariectomized rats given high phosphorus diet.

Eight female Wistar rats at eight weeks of age were divided into two groups of four namely group TK (ovariectomized rats fed only high phosphorus diet) and group TS (ovariectomized rats which were fed high phosphorus diet then followed by standard diet). One week after environmental adaptation, ovariectomy was performed in TK and TS rats. One day after ovariectomy, TK and TS rats were given high phosphorus diet for seven weeks. After seven weeks, the TK rats were given high phosphorus diet, while the TS rats were fed standard diet for five weeks. At the end of treatment, all rats were euthanized, then the left kidney was taken and fixed with 10% formalin for histopathological examination with Hematoxylin Eosin stain.

Histopathological examination of TK rats was showed hypertrophy of glomerulus, tubular epithelium undergone atrophy and vacuolization to necrosis, and protein mass deposits was found in glomerulus and tubular lumen. Histopathological examination of TS rats was showed the glomerulus nearing to normal, tubular epithelium undergone atrophy and vacuolization but not showed any necrosis, and protein mass deposits in the tubular lumen was found. Conclusion, standart diet which given to ovariectomized rats fed high phosphorus diet was ameliurate kidney, however, acute nephrosis was still founded.

Keywords: High phosphorus, kidney, ovariectomized rat