

INTISARI

PENGARUH PAKAN STANDAR TERHADAP HISTOPATOLOGIK UTERUS TIKUS DEWASA PASCA DIBERI PAKAN FOSFOR TINGGI

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Diet fosfor tinggi meningkatkan konsentrasi PTH serum pada tikus muda dan tua sehingga terjadi penurunan sintesis vitamin D aktif. Kemudian reseptor vitamin D terdapat pada ovarium, endometrium, dan miometrium. Penelitian ini bertujuan untuk mengetahui pengaruh diet fosfor tinggi pada histopatologis uterus tikus. Dalam penelitian ini digunakan 10 tikus Wistar betina umur 8 minggu. Tikus dibagi 2 kelompok (DS+ dan DT+) diberi pakan standar yang mempunyai kandungan protein 20%, kalsium 0,6%, fosfor 0,5% dengan komposisi pakan (g/100 g pakan) terdiri dari 76% tepung jagung, 20% tepung teri tawar, 0,3% CaCO₃, 3% molase, dan 0,7% vitamin mineral. Seminggu pasca adaptasi lingkungan, tikus DT+ diberi pakan fosfor tinggi yang mempunyai kandungan protein 20%, kalsium 0,6%, fosfor 3% selama 7 minggu. Pemberian diet fosfor tinggi menyebabkan hiperplasia atau proliferasi sel dengan peningkatan yang signifikan pada ketebalan endometrium karena diet fosfor tinggi menginduksi hormon paratiroid (PTH) dan pelepasan fibroblast growth factor 23 (FGF23) sehingga menghalangi sintesis vitamin D yang mengatur jalur pensinyalan seluler yang terkait dengan pertumbuhan dan proliferasi sel di uterus. Kemudian tikus diberi pakan standar kembali untuk melihat apakah uterus mengalami perubahan reversible menjadi normal kembali pasca diberi pakan standar setelah diberi pakan tinggi fosfor.

Kata kunci: fosfor tinggi, tikus, uterus, vitamin D.

ABSTRACT

THE EFFECT OF STANDAR FOOD ADMINISTRATION IN UTERINE HISTOPATHOLOGY OF ADULT RAT AFTER GIVEN HIGH- PHOSPOROUS DIET

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A high phosphorus diet increased PTH serum level in young and old mice, thereby decreasing the synthesis of active vitamin D while vitamin D receptors were found in the ovaries, endometrium, and myometrium. This study aimed to determine the effect of high phosphorus diet on rat uterine histopathology. In this study, 10 female Wistar rats 8 weeks old were used. Rats were divided into 2 groups (DS+ and DT+) and were given standard feed treatment which had 20% protein content, 0.6% calcium, 0.5% fosfor with a feed composition (g / 100 g of feed) consisting of 76% corn flour, 20% flour. unsalted anchovies, 0.3% CaCO₃, 3% molasses, and 0.7% mineral vitamins. One week after environmental adaptation, DT+ mice were fed with high phosphor which contained 20% protein, 0.6% calcium, 3% fosfor for 7 weeks. Administration of a high phosphorus diet caused hyperplasia or cell proliferation with a significant decrease in endometrial thickness because a high phosphorus diet induced parathyroid hormone (PTH) and the released of fibroblast growth factor 23 (FGF23) thereby blocking the synthesis of vitamin D which regulates cellular signaling pathways associated with cell proliferation in the uterus.

Key words: high phospor, rat, uterine, vitamin D.