

PENGARUH PEMBERIAN ASPIRIN TERHADAP PERUBAHAN HISTOPATOLOGIS GINJAL MENCIT (*Mus musculus*)

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Intisari

Aspirin adalah obat dalam kelompok salisilat dan merupakan salah satu jenis dari *non-steroidal anti-inflammatory drugs (NSAIDs)*. Aspirin merupakan salah satu obat bebas yang banyak dijual dan mudah didapat, sehingga resiko terjadinya keracunan aspirin menjadi lebih besar. Mekanisme kerja aspirin yang menghambat biosintesis prostaglandin melalui inhibisi *cyclooxygenase (COX)* dapat menyebabkan nekrosis papila ginjal. Penelitian ini bertujuan untuk mengetahui perubahan histopatologi ginjal mencit yang diberi aspirin secara oral.

Sebanyak 18 ekor mencit betina galur Balb/C, umur 2 bulan dengan berat badan 20 gram dibagi menjadi 3 kelompok. Kelompok kontrol diberi *carboxyl methyl cellulose* 0,25% dan Kelompok Perlakuan I dan II diberi aspirin dengan masing-masing 63 mg/kg BB dan 126 mg/kg BB. Pemberian aspirin diberikan peroral selama 7 hari dan pada hari ke 8 semua mencit dieutanasi melalui hiperanastesi menggunakan eter. Mencit dinekropsi diambil ginjal untuk dibuat preparat histopatologi dengan pengecatan *hematoxylin eosin* kemudian diamati kerusakan yang ditimbulkan secara mikroskopik. Data yang diperoleh dianalisis secara deskriptif.

Hasil gambaran histopatologis di ginjal menunjukkan 100% mencit kelompok kontrol tidak mengalami perubahaman, kelompok perlakuan I yang diberi aspirin dosis 63 mg/kg BB sebanyak 66,67% tidak mengalami perubahan, 16,67% mengalami nefritis interstisialis dan 16,67% mengalami autolisis. Kelompok perlakuan II yang diberi 126 mg/kg BB aspirin sebanyak 83,34% tidak mengalami perubahan serta 16,67% mengalami degenerasi hidropik epitel tubulus. Kesimpulan pemberian aspirin dosis 126 mg/kg BB peroral dapat menyebabkan degenerasi hidropik epitel tubulus ginjal dan perubahan ini tidak ditemukan pada kelompok kontrol maupun kelompok yang diberi aspirin 63 mg/kg BB.

Kata kunci : Aspirin, ginjal, degenerasi hidropik

THE EFFECT OF ASPIRIN ADMINISTRATION ON HISTOPATHOLOGICAL CHANGES IN MICE (*Mus musculus*) KIDNEY

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Abstract

Aspirin is one of salicylate drug group and the type of non-steroidal anti-inflammatory drugs (NSAIDs). Right now aspirin were sold commercially and bought easily, because of that the risk of aspirin poisoning becomes larger. The mechanism action of aspirin is inhibits prostaglandin biosynthesis through inhibition of cyclooxygenase (COX) lead to renal papillary necrosis. This study were aims to determine the kidney histopathological changes in mice that were given aspirin orally.

Eighteen female mice Balb/C strain, age 2 months with weight 20 g were divided into three groups. Control group were given with *carboxyl methyl cellulose* 0.25% and Group I and II were given by aspirin with each dosages 63 mg/kg BW and 126 mg/kg BW. This administration were given for 7 days then on 8th day all mice euthanasia by hyperanastesi used eter. All mice necropted and kidneys were taken for preparations histopathology which was stained with hematoxylin eosin then observed microscopic damage. Data observed and analyzed descriptively.

The results of renal histopathology in control group are seen 100% of mice unchanged, in the group I were given by aspirin dosages 63 mg/kg BW as much as 66,67% unchanged, 16,67% had interstitial nephritis and 16,67% had autolysis. The group II was induced by aspirin dosages 126 mg/kg BW as much as 83,34% unchanged and 16,67% had hydropic degeneration of epithelial tubules. Conclusion, administration of aspirin dose 126 mg/kg BW caused hidropic degeneration of epithelial tubulus kidney and this change not found in control group and grup I.

Keywords: Aspirin, kidney, hydropic degeneration