

ABSTRACT

COMPARATION OF TRANSAMINASE ENZYME LEVEL IN BILIARY OBSTRUCTION JAUNDICE PATIENTS OF CANCER AND CHOLEDOCOLITHIASIS IN RSUP DR. SARDJITO, YOGYAKARTA IN 2017-2020

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Background: Biliary obstruction jaundice is excessive accumulation of bilirubin due to obstruction of biliary tract. This condition occurs due to benign disease and malignancy. The most common etiologies are choledocolithiasis and post-hepatic malignancies. Early diagnosis needed to prevent complications, reduce mortality, and increase life expectancy. Investigations such as ultrasound and magnetic resonance imaging is an expensive examination, requires reliable operators, and has high sensitivity low. Transaminase enzyme levels as a marker of liver cell damage are routine, inexpensive, and widely available examinations making it suitable for early diagnosis and differentiate etiology of biliary obstruction jaundice.

Objective: To determine comparison of levels of enzyme transaminase patients with biliary obstruction jaundice due to malignancy and choledocholithiasis.

Methods: This study used a cross-sectional design involving jaundice patients biliary obstruction due to malignancy and choledocolithiasis at dr. Sarjito Hospital 2017-2020. Transaminase enzyme levels from medical records in both groups were analyzed by means of different tests, p value <0.05 was considered clinically significant.

Results: The research had 83 subjects with a male predominance, an average age of 50.47 years. Aspartate transaminase (AST) and alanine transaminase levels (ALT) increased, AST in malignancy was higher than choledocolithiasis (83.5 IU/L vs. 67 IU/L; p = 0.222), ALT in



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Universitas Gadjah Mada, 2022 | Diunduh dari <http://etd.repository.ugm.ac.id/>

choledocolithiasis was higher than malignancy (79 IU/L vs. 61 IU/L, $p = 0.402$). Even so, there is no difference significant ($p > 0.05$) in AST and ALT levels between two groups.

Conclusion: AST levels were higher in malignancy while ALT was higher in choledocolithiasis, but AST and ALT enzymes were not statistically different significant in second group.

Keywords: transaminase enzyme, biliary obstruction jaundice, malignancy, choledocolithiasis

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Latar Belakang: Ikterus obstruksi bilier merupakan kondisi akumulasi bilirubin berlebihan karena sumbatan saluran bilier. Kondisi ini terjadi karena penyakit jinak dan keganasan, etiologi tersering yaitu *choledocolithiasis* dan keganasan post-hepatik. Diagnosis dini diperlukan untuk mencegah komplikasi, menurunkan mortalitas, dan meningkatkan angka kelangsungan hidup. Pemeriksaan penunjang seperti ultrasonografi dan *magnetic resonance imaging* merupakan pemeriksaan mahal, perlu operator handal, dan memiliki sensitivitas rendah. Kadar enzim transaminase sebagai penanda kerusakan sel hepar merupakan pemeriksaan rutin, murah, dan banyak tersedia sehingga cocok untuk diagnosis dini dan membedakan etiologi ikterus obstruksi bilier.

Tujuan: Penelitian bertujuan untuk mengetahui perbandingan kadar enzim transaminase pasien ikterus obstruksi bilier oleh karena keganasan dan *choledocolithiasis*.

Metode: Penelitian menggunakan desain *cross-sectional* yang melibatkan pasien ikterus obstruksi bilier oleh karena keganasan dan *choledocolithiasis* di RSUP dr. Sardjito 2017-2020. Kadar enzim transaminase dari rekam medis pada kedua kelompok dianalisis uji beda rerata, nilai $p < 0,05$ dianggap bermakna secara klinis.

Hasil: Subjek penelitian berjumlah 83 dengan dominasi jenis kelamin laki-laki dengan rata-rata usia 50,47 tahun. Kadar enzim *aspartate transaminase* (AST) dan *alanine transaminase* (ALT) meningkat, AST pada keganasan lebih tinggi dibandingkan choledocolithiasis (83,5 IU/L vs. 67 IU/L; $p = 0,222$), ALT pada choledocolithiasis lebih tinggi dibandingkan keganasan (79 IU/L vs. 61 IU/L, $p = 0,402$). Meskipun begitu, tidak terdapat perbedaan signifikan ($p > 0,05$) pada kadar AST dan ALT antara kedua kelompok.

Kesimpulan: Kadar AST lebih tinggi pada keganasan sementara ALT lebih tinggi pada choledocolithiasis, namun enzim AST dan ALT secara statistik memiliki perbedaan tidak signifikan pada kedua kelompok.

Kata Kunci: enzim transaminase, ikterus obstruksi bilier, keganasan, *choledocolithiasis*