

AKURASI PENINGKATAN KADAR GAMMA-GLUTAMYL TRANSFERASE DAN ALKALINE PHOSPHATASE UNTUK DIAGNOSIS ATRESIA BILIER DI RSUP DR. SARDJITO YOGYAKARTA

INTISARI

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Pendahuluan

Pada kasus atresia bilier, diagnosis baku emas masih membutuhkan waktu, biaya, dan keterampilan serta kompetensi khusus. Diagnosis baku emas tersebut ialah kolangiografi intraoperatif, MRCP (*Magnetic Resonance Cholangiopancreatography*), serta temuan saat operasi (laparotomi). Padahal, pasien atresia bilier harus segera dilakukan operasi dengan Prosedur Kasai, karena jika tidak segera dioperasi, maka hal ini dapat meningkatkan resiko morbiditas dan mortalitas. Sehingga, diperlukan suatu alat diagnostik yang lebih praktis, murah, cepat, dan tidak invasif. Pemeriksaan laboratorium faal hepar seperti kadar gamma-glutamyl transferase (GGT) dan alkaline phosphatase (ALP) merupakan pemeriksaan yang lebih praktis, hemat, cepat, dan tidak invasif. Gamma-glutamyl transferase (GGT) sendiri merupakan enzim (protein permukaan sel) yang diproduksi oleh hepar dan bertugas dalam katabolisme ekstraselular dari antioksidan utama dari sel yaitu glutathione (GSH). Enzim ini ditemukan terutama di hepar. Sedangkan Alkaline phosphatase (ALP) merupakan enzim yang berfungsi untuk mengkatalisis ester fosfat menjadi senyawa organik dan fosfat anorganik. Enzim ini dapat ditemukan di hepar namun juga terdapat di beberapa organ tubuh lainnya. Mengingat pemeriksaan kadar GGT dan ALP bersifat lebih praktis, hemat, cepat dan tidak invasif, maka dari itu perlu diteliti lebih lanjut mengenai keakuratan metode diagnostik tersebut dalam mendiagnosis atresia bilier.

Tujuan

Tujuan penelitian ini ialah untuk mengetahui akurasi peningkatan kadar gamma-glutamyl transferase (GGT) dan alkaline phosphatase (ALP) untuk diagnosis atresia bilier di RSUP Dr. Sardjito Yogyakarta.

Metode

Metode penelitian ini ialah metode uji diagnostik. Sampel yang digunakan ialah rekam medis dari pasien yang memenuhi kriteria inklusi yaitu telah dilakukan Prosedur Kasai dan/atau kolangiografi intraoperatif dan/atau pemeriksaan dengan MRCP dan/atau telah ditemukan tanda durante operasi (laparotomi) serta kriteria eksklusi berupa rekam medis yang tidak lengkap.

Hasil

Dari 66 sampel pada analisa uji diagnostik kombinasi peningkatan kadar GGT dan ALP, ditemukan sensitivitas sebesar 96,67%, spesifisitas sebesar 33,33%, nilai ramal positif sebesar 54,72%, nilai ramal negatif sebesar 92,31%, serta akurasi sebesar 62,12% dalam mendiagnosis atresia bilier.

Kata kunci: Atresia Bilier, Gamma-glutamyl Transferase, Alkaline Phosphatase

ACCURATION OF THE INCREASING AMMOUNT OF GAMMA-GLUTAMYL TRANSFERASE AND ALKALINE PHOSPHATASE FOR DIAGNOSING BILLIARY ATRESIA IN RSUP DR. SARDJITO YOGYAKARTA

ABSTRACT

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Background

The usage of the gold standards in diagnosing biliary atresia are time consuming, costly, and need a special competence to do it. Those gold standards are intraoperative cholangiography, MRCP (Magnetic Resonance Cholangiopancreatography), and also finding during open surgery (laparotomy). Biliary atresia need to be treated as quickly as possible through an operation procedure called the Kasai Procedure. This need to be done quickly, because postponing the operation will increase the morbidity and mortality rate. That's why we need a diagnostic method that is practical, cheap, quick, and non-invasive. Gamma-glutamyl Transferase (GGT) and alkaline phosphatase (ALP) are laboratory exams that are more practical, cheap, quick, and non-invasive compared to the current gold standards. GGT is an enzyme produced by the liver to do extracellular catabolism of glutathione (GSH), which is the main antioxidant of the cells. This enzyme is mainly found in the liver. Meanwhile, ALP is an enzyme that catalyzes phosphate ester to organic substance and anorganic phosphate. This enzyme is mainly found in the liver, although it could be found in other organs. Because the laboratory examination of GGT and ALP levels are practical, cheap, quick, and non-invasive, we need to do research on it's accuracy on diagnosing biliary atresia.

Purpose

The purpose of this research is to know the accuracy of the increasing amount of gamma-glutamyl transferase (GGT) dan alkaline phosphatase (ALP) to diagnose biliary atresia in RSUP Dr. Sardjito Yogyakarta.

Method

The method of this research is diagnostic test study. Samples that are used are medical records of patients who have already had the Kasai Procedure and/or intraoperative cholangiography and/or MRCP examination and/or laparotomy (open surgery) to diagnose the biliary atresia (inclusion criteria). Meanwhile the incomplete medical records are being excluded from the research (exclusion criteria).

Result

From 66 samples, it was found that the combination of the increasing amount of GGT and ALP has a sensitivity of 96.67%, specificity of 33.33%, positive predictive value of 54.72%, negative predictive value of 92.31%, and accuracy of 62.12% in diagnosing biliary atresia.

Key words: Billiary Atresia, Gamma-glutamyl Transferase, Alkaline Phosphatase