

## INTISARI

### **Faktor Prediktor *Native Liver Survival* Satu Tahun Pasca-Prosedur Kasai pada Anak dengan Atresia Bilier**

**Latar Belakang:** Meskipun prosedur Kasai berhasil dilakukan, pasien tetap dapat mengalami penyakit hati kronik sehingga diperlukan transplantasi hati. Kadar serum albumin dan skor Aspartate Aminotransferase to Platelet Ratio Index (APRI) pra-prosedur Kasai, serta penurunan bilirubin total pada 7 hari pasca-prosedur Kasai dapat digunakan sebagai prediktor *native liver survival* (NLS).

**Tujuan:** Menganalisis pengaruh kadar albumin dan skor APRI pra-prosedur Kasai, serta penurunan bilirubin 7 hari pasca-prosedur Kasai terhadap NLS 1 tahun pada pasien atresia bilier.

**Metode:** Studi kohort retrospektif dilakukan pada pasien atresia bilier usia 0-5 tahun di Rumah Sakit Sardjito Yogyakarta, Indonesia, Januari 2020 hingga Desember 2023. Data klinis, laboratoris serta operatif pra- dan pasca-prosedur Kasai dikumpulkan. Dilakukan penghitungan kadar albumin dan skor APRI pra-prosedur Kasai, penurunan bilirubin 7 hari pasca-prosedur Kasai, serta NLS. Prediktor independen diamati menggunakan regresi logistik bivariat dan multivariat. *Native liver survival* 1 tahun pasca-prosedur Kasai dianalisis dengan hazard ratio dan kurva Kaplan Meier.

**Hasil:** Sebanyak 34 subjek penelitian, 19 (55,8%) perempuan, 47,05% mengalami NLS, dengan usia rata-rata saat dilakukan prosedur Kasai pada kelompok NLS  $82.56 \pm 23.98$  hari. *Native liver survival* pasien atresia bilier 1 tahun pasca-prosedur Kasai 47,1%. Kadar albumin serum pra-prosedur Kasai dan penurunan bilirubin total 7 hari pasca-prosedur Kasai merupakan variabel yang signifikan memengaruhi NLS, dengan AHR 3,21 (CI 95% 1,23-8,36, P=0,017) dan 6,14 (CI 95% 1,72-21,90, P=0,005).

**Kesimpulan:** Kadar albumin pra-prosedur Kasai, dan penurunan bilirubin 7 hari pasca-prosedur Kasai merupakan variabel yang signifikan mempengaruhi NLS 1 tahun pasca-prosedur Kasai.

**Kata kunci:** faktor prediktor, *native liver survival*, pasca-prosedur Kasai, atresia bilier

## ABSTRACT

### **Predictors of One-Year Native Liver Survival After Kasai Procedure in Children with Biliary Atresia**

**Background:** Despite successful Kasai procedure, patients may develop chronic liver disease, thereby necessitating liver transplantation. Pre-Kasai serum albumin levels and APRi scores, along with total bilirubin reduction 7 days post-Kasai have been proposed as predictors of NLS.

**Objective:** Analyze the effects of pre-Kasai serum albumin levels and APRi scores, along with total bilirubin reduction 7 days post-Kasai, on 1-year NLS in biliary atresia patients.

**Methods:** A retrospective cohort study was conducted among biliary atresia patients aged 0–5 years at Sardjito Hospital, Yogyakarta, Indonesia, from January 2020–December 2023. Clinical, laboratory, and operative data before and after Kasai procedure were collected. Pre-Kasai serum albumin levels and APRi scores, total bilirubin reduction 7 days post-Kasai, and NLS were calculated. Independent predictors of 1-year NLS were identified using bivariate and multivariate logistic regression analyses. One-year NLS was further evaluated using hazard ratios and Kaplan–Meier curves.

**Result:** A total of 34 patients were included, 19 (55.8%) of whom were female, and NLS was observed in 47.05% of patients, with a mean age at Kasai of  $82.56 \pm 23.98$  days. The one-year NLS rate after Kasai procedure was 47.1%. Pre-Kasai serum albumin levels and total bilirubin reduction 7 days post-Kasai were significantly associated with NLS (AHR 3.21, 95% CI 1.23–8.36,  $p = 0.017$  and AHR 6.14, 95% CI 1.72–21.90,  $p = 0.005$ ).

**Conclusion:** Pre-Kasai serum albumin levels and the reduction in total bilirubin 7 days post-Kasai procedure were associated with 1-year NLS.

**Keywords:** predictor factors, native liver survival, post-Kasai procedure, biliary atresia