World Academy of Science, Engineering and Technology
International Journal of Medical and Health Sciences
Vol:18, No:11, 2024

Early Predictive Signs for Kasai Procedure Success

Authors : Medan Isaeva, Anna Degtyareva

Abstract : Context: Biliary atresia is a common reason for liver transplants in children, and the Kasai procedure can potentially be successful in avoiding the need for transplantation. However, it is important to identify factors that influence surgical outcomes in order to optimize treatment and improve patient outcomes. Research aim: The aim of this study was to develop prognostic models to assess the outcomes of the Kasai procedure in children with biliary atresia. Methodology: This retrospective study analyzed data from 166 children with biliary atresia who underwent the Kasai procedure between 2002 and 2021. The effectiveness of the operation was assessed based on specific criteria, including post-operative stool color, jaundice reduction, and bilirubin levels. The study involved a comparative analysis of various parameters, such as gestational age, birth weight, age at operation, physical development, liver and spleen sizes, and laboratory values including bilirubin, ALT, AST, and others, measured pre- and post-operation. Ultrasonographic evaluations were also conducted pre-operation, assessing the hepatobiliary system and related quantitative parameters. The study was carried out by two experienced specialists in pediatric hepatology. Comparative analysis and multifactorial logistic regression were used as the primary statistical methods. Findings: The study identified several statistically significant predictors of a successful Kasai procedure, including the presence of the gallbladder and levels of cholesterol and direct bilirubin post-operation. A detectable gallbladder was associated with a higher probability of surgical success, while elevated post-operative cholesterol and direct bilirubin levels were indicative of a reduced chance of positive outcomes. Theoretical importance: The findings of this study contribute to the optimization of treatment strategies for children with biliary atresia undergoing the Kasai procedure. By identifying early predictive signs of success, clinicians can modify treatment plans and manage patient care more effectively and proactively. Data collection and analysis procedures: Data for this analysis were obtained from the health records of patients who received the Kasai procedure. Comparative analysis and multifactorial logistic regression were employed to analyze the data and identify significant predictors. Question addressed: The study addressed the question of identifying predictive factors for the success of the Kasai procedure in children with biliary atresia. Conclusion: The developed prognostic models serve as valuable tools for early detection of patients who are less likely to benefit from the Kasai procedure. This enables clinicians to modify treatment plans and manage patient care more effectively and proactively. Potential limitations of the study: The study has several limitations. Its retrospective nature may introduce biases and inconsistencies in data collection. Being single centered, the results might not be generalizable to wider populations due to variations in surgical and postoperative practices. Also, other potential influencing factors beyond the clinical, laboratory, and ultrasonographic parameters considered in this study were not explored, which could affect the outcomes of the Kasai operation. Future studies could benefit from including a broader range of factors.

Keywords : biliary atresia, kasai operation, prognostic model, native liver survival
Conference Title : ICPCH 2024 : International Conference on Pediatrics and Child Health
Conference Location : San Francisco, United States
Conference Dates : November 04-05, 2024

Open Science Index, Medical and Health Sciences Vol:18, No:11, 2024 publications.waset.org/abstracts/180542.pdf