Biliary Atresia in Sudanese Infants: A Multicentre Retrospective Study of Clinical Presentation, Surgical Management, and Short-Term Outcomes

Marwan Osman [1], Esam Taha [2], **Abdelrahman S. Elnour** [3]
[1] *Sudan Medical Specialization Board*
[2] *Alribat University Hospital*
[3] *National Centre of Pediatric Surgery*

Introduction:

- Biliary atresia is a progressive fibro-obliterative cholangiopathy and the leading indication for pediatric liver transplantation.
- In resource-limited settings such as Sudan, delays in diagnosis and limited access to timely surgical care significantly affect patient outcomes.
- This study aimed to describe the clinical presentation, surgical management, and short-term outcomes of infants with biliary atresia treated at major pediatric surgical centers in Sudan.

Methods:

- This retrospective descriptive cross-sectional study included infants diagnosed with biliary atresia between January 2019 and March 2024.
- Data were collected from six major pediatric and hepatobiliary surgery centres.
- Clinical, laboratory, imaging, operative, and outcome data were analyzed.

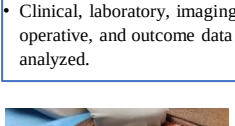

Fig 1: Intraoperative view showing a nodular cirrhotic liver due to delayed biliary atresia in one of our patients.

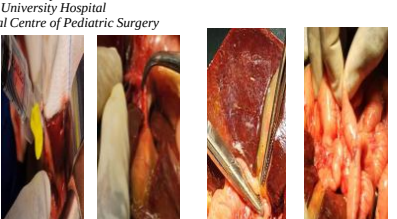

Figure 2: Main operative steps of Kasai procedure in one of our patients.

Results:

- 84 infants were included; 48 (57.1%) were male.
- At referral, 44 infants (52.4%) were younger than 90 days.
- Preoperative imaging and liver biopsy supported the diagnosis, and intraoperative cholangiography confirmed biliary atresia in all patients.
- Kasai procedure was performed in 73 infants (86.9%), while the procedure was abandoned in 11 (13.1%) due to advanced disease.
- Postoperative complications occurred in 41 infants (48.8%), most commonly wound infection (21.4%) and anastomotic leak (9.5%). At discharge, 72.6% passed pigmented stools.
- At six-month follow-up, 35.7% had a favorable clinical response, with jaundice resolution noted in 64.3%.
- The six-month mortality rate was 50.0%.
- Only three infants (3.6%) were able to travel abroad for liver transplantation.

Conclusion:

- Biliary atresia in Sudan is characterized by delayed presentation and limited access to definitive care.
- Early recognition, prompt referral, and improved access to liver transplantation are essential to enhance survival and long-term prognosis in this setting.

Corresponding author: Dr. **A. S. Elnour** abdusurgery@gmail.com