

# BEWARE THE OBSTRUCTED LOOP: A SURGICALLY TREATABLE CAUSE OF RECURRENT CHOLANGITIS FOLLOWING KASAI PORTOENTEROSTOMY FOR BILIARY ATRESIA

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## Introduction

- A Kasai portoenterostomy (KPE) may achieve jaundice clearance in children with biliary atresia (BA) thereby facilitating long-term survival with their native liver.(1)
- However, cholangitis may occur following even a successful KPE
- The incidence of recurrent cholangitis is 40-60%, commonly early within 3-months or even later.(2)
- Our incidence of cholangitis is 64.3%, with a mean of 3.6 (1-15) episodes per child, a peak incidence within 180 days of KPE and a mean hospital stay of 14.8 (2-64) days.(2)
- Of the several methods for preventing recurrent cholangitis, relief by surgery on an obstructed roux loop has been rarely reported.(3)

## Methods

- This study was performed in the department of paediatric surgery in the National University Hospital, Singapore.
- Retrospective review of medical records of 2 children (cases 1 and 2) who underwent surgery on their roux loop subsequent to KPE for BA.
- We treat with parenteral antibiotics for 2-weeks or longer as per clinical and biochemical (liver function tests) response.

## Results

	Case 1	Case 2
Current age (months)	31	26
Age at KPE (days)	33	54
Total bilirubin 3 months post KPE (umol/L)	15	6
Cholangitis episodes after KPE	5	5
Onset of cholangitis (number of days following KPE)	20	570
Cumulative hospital stay due to cholangitis (days)	129	80
Hepatobiliary scintigraphy (Tc-99m mebrofenin) findings	Hold-up within the biliary limb of the roux loop at 6 hours (figure 1)	
Age at laparotomy (months)	4	19
Intra-operative findings at laparotomy	Adhesions in the biliary limb	Adhesions at the T-junction of the entero-enterostomy (figure 2)
Time since laparotomy (months)	31	11
Number of cholangitis episodes after laparotomy	0	2
Weight centiles at 3 and 6 months post-laparotomy (%)	6 and 13	82 and 85
Height centiles at 3 and 6 months post-laparotomy (%)	2.4 and 11	95 and 97



Figure 1: (left) Post-Kasai portoenterostomy hepatobiliary scintigraphy scan for case 2 showing persistent tracer hold-up in the biliary limb of the roux loop at 6 hours (right) Post-surgical correction of obstruction of the roux limb hepatobiliary scintigraphy scan for case 2 showing unimpeded drainage from the liver into the small bowel.

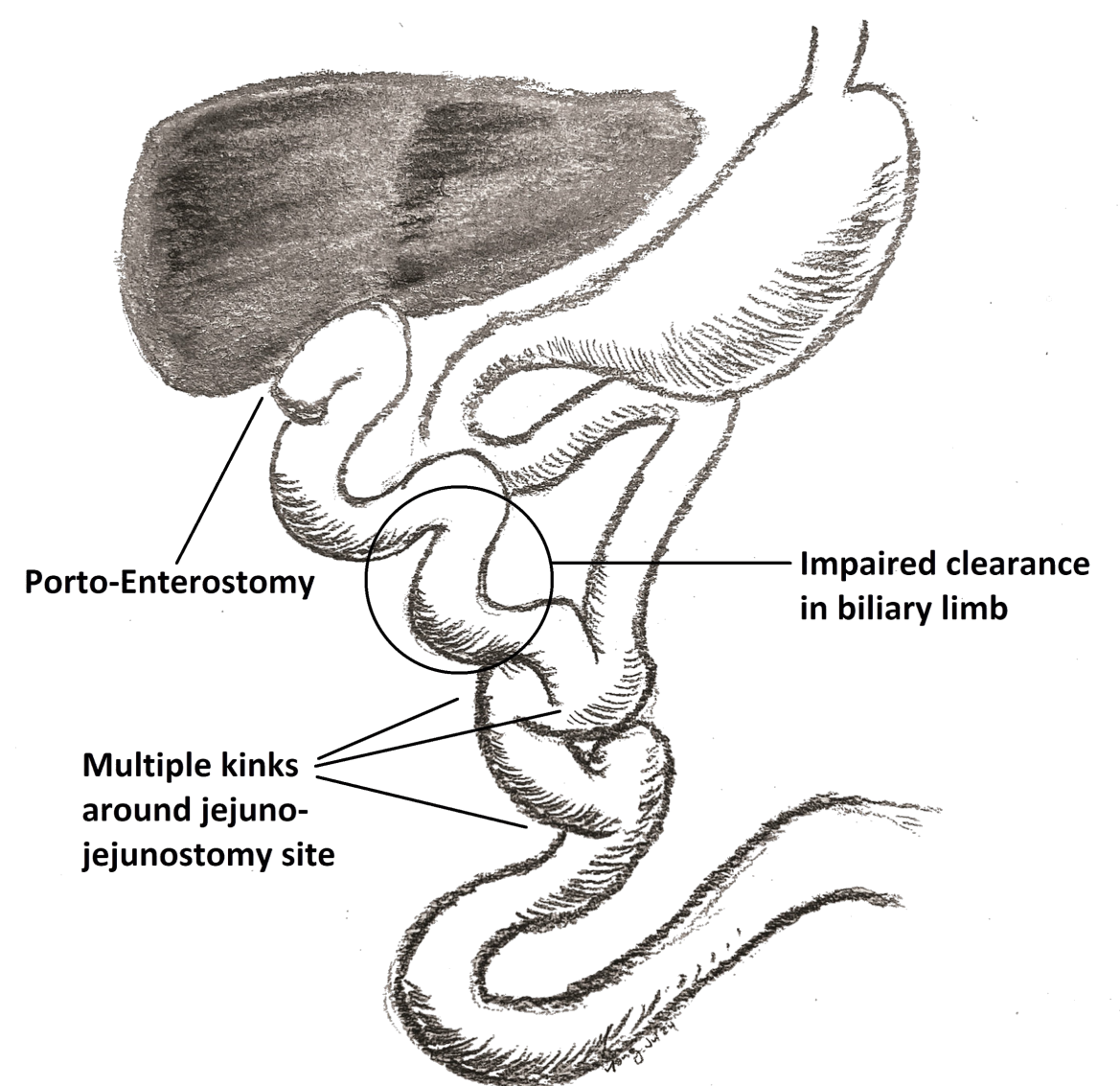


Figure 2: Intra-operative findings at laparotomy, adhesiolysis, resection of the obstruction and anastomosis for case 2

## Conclusions

- Mechanical obstruction of the roux loop may impede biliary drainage and contribute to recurrent cholangitis even after a successful KPE.
- Surgical correction may afford significant relief from cholangitis, normalisation of liver function and continued improvement in growth parameters.

## References

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