



# The Most Significant Prognostic Factor of Biliary Atresia after Kasai Portoenterostomy

Seok Joo Han, Myung-Joon Kim, Jung-tak Oh, Seung Hoon Choi, Eui Ho Hwang

Yonsei University College of Medicine, Seoul, Korea

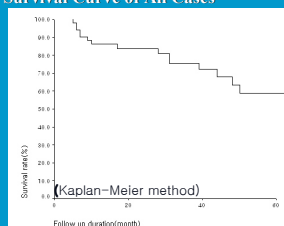


**Backgrounds and purpose:** The prognostic factors of biliary atresia after Kasai portoenterostomy has been known the patient's age at the time of Kasai portoenterostomy (age), the size of bile duct at the porta hepatis (size), the clearing of jaundice after Kasai portoenterostomy (clearing) and the surgeon's personal experience. The aim of this study is to decide the most significant prognostic factor of biliary atresia after Kasai portoenterostomy.

**Materials and Methods:** This study is retrospective statistical analysis about the above mentioned prognostic factors in 51 cases of biliary atresia that had Kasai portoenterostomy by one pediatric surgeon. For the statistical analysis, Kaplan-Meier method, Log-rank test and Cox regression test were used. A *p* value of less than 0.05 was considered to indicate statistical significance.

## Results:

Fig. 1. Survival Curve of All Cases



Fifteen patients were regarded to be dead in this study, including nine liver transplantations.

Table 1. Analysis of prognostic factors (Cox regression)

Risk factors	Hazard ratio	P-value
Age	1.005	0.629
Bile duct size	0.972	0.002
Total bilirubin	1.086	0.001

Fig. 2. Survival Curve by Age (60 days)

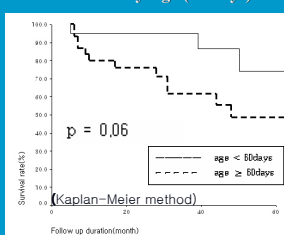


Fig. 3. Survival Curve by Age (90 days)

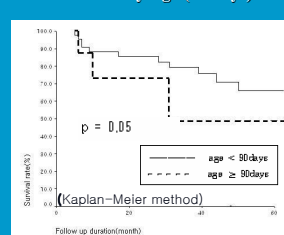
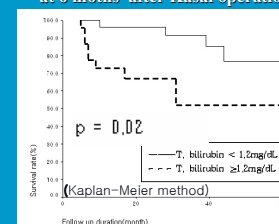


Table 2. The Survival rate by the bile duct size

Bile Duct Size (um)	Number of patient	5-year Survival Rate (%)	P-value
<50	8	0.0	0.45
≥50	43	63.3	
<100	23	42.1	0.23
≥100	28	66.8	
<150	38	55.2	0.66
≥150	13	70.5	
<200	47	55.7	0.35
≥200	4	80.0	

Fig. 4. Survival Curve by total bilirubin level at 6 months after Kasai operation



There is no significant difference of survival rate between groups of age.

- The age is also not significant risk factors for survival in this study (Cox Regression test; *p* value = 0.63).
- There is no significant difference of survival rate between groups of bile duct size.
- However, the size is significant risk factors for survival (Cox Regression test; *p* value = 0.002).
- There is significant difference of survival rate between groups of serum bilirubin clearing (Kaplan-Meier method; *p* value = 0.02).
- The serum bilirubin clearing is also significant risk factors for survival (Cox Regression test; *p* value = 0.001)

**Conclusion:** The serum bilirubin clearing is the most significant prognostic factor of biliary atresia after Kasai portoenterostomy