

FACTORS AFFECTING ANASTOMOTIC LEAK IN PRIMARY REPAIR OF ESOPHAGEAL ATRESIA IN PHILIPPINE CHILDREN'S MEDICAL CENTER: A 20 YEAR EXPERIENCE

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INTRODUCTION

Advancements in neonatal care have led to improved survival rates for patients with esophageal atresia (EA) in recent years. However, the focus has shifted towards addressing complications, with anastomotic leak emerging as a significant concern. This study aims to identify factors influencing anastomotic leaks in primary EA/TEF repair to aid in the refinement of our patient management.

METHODS

This is a retrospective chart review of patients born in or transferred in (PCMC) with congenital EA with or without TEF from January 2002 to December 2022. A logistic regression analysis involving 33 neonates who had undergone repair for EA/TEF was done to investigate the factors affecting the occurrence of anastomotic leaks.

Table IV: Results of logistic regression

| | Univariate regression analysis | | | | Multivariate regression analysis | | | |
|-------------------------|--------------------------------|------|------------|--------------------|----------------------------------|------|--------------|--------------------|
| | Coefficient B | P | Odds Ratio | 95% conf. interval | Coefficient B | P | Odds Ratio | 95% conf. interval |
| Birthweight | 0 | .621 | 1 | 1 - 1 | -0.01 | .115 | 0.99 | 0.99 - 1 |
| Preterm | 0.47 | .708 | 0.63 | 0.05-7.31 | 18.73 | .998 | 136038642.77 | 0 - Infinity |
| Present Cardiac Anomaly | -20.09 | .998 | 0 | 0 - infinity | -22.92 | .999 | 0 | 0 - Infinity |
| Long Esophageal Gap | 0.14 | .909 | 1.15 | 0.1 - 12.62 | 0.54 | .748 | 1.72 | 0.06 - 46.92 |
| Monofilament Suture | -20.4 | .998 | 0 | 0 - infinity | -44.53 | .997 | 0 | 0 - Infinity |
| Application of PVF | -1.06 | .301 | 0.35 | 0.05-2.58 | 0.15 | .926 | 1.16 | 0.05 - 29.39 |

RESULTS

Analysis favors a higher birth weight, presence of cardiac anomaly and use of monofilament suture has lower probability of leak. Prematurity, long esophageal gap, and absence of the PVF Protocol appeared to increase leak probability.

DISCUSSION

While low birth weight, prematurity, long esophageal gap, use of braided suture and non application of PVF protocol were observed to have increased the probability of anastomotic leak, the non-significant p-values emphasize that these relationships should be interpreted cautiously.

KEYWORDS

Esophageal atresia, Tracheoesophageal fistula, Primary repair, Anastomotic leak, Risk factor