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FACTORS PREDICTING DEATH OR MULTIPLE READMISSIONS IN THE FIRST YEAR AFTER NISSEN FUNDOPLICATION IN CHILDREN AT A PAEDIATRIC HOSPITAL IN SOUTH AFRICA

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Study Aim: To establish which factors predict if children undergoing Nissen fundoplication will die or have multiple readmissions in the first post-operative year, in order to provide improved counseling to families.

Methods: A single-centre restrospective study of children undergoing Nissen fundoplication was undertaken. Data regarding patient demographics, general condition, underlying pathology, previous surgery, operative technique and post-operative course was captured. Nonparametric Mann-Whitney-U and Kruskal-Wallis tests were used for numerical variable analysis. Chi-squared test for independence was used to compare the counts of nominal categorical variables.

Results: One hundred and eighteen patients were included. In the first post-operative year, 13(11%) patients died, and 30(25%) were readmitted to hospital more than once. Death in the first post-operative year occurred on average 110(25–297) days post-surgery. Cause of death was related to sepsis in 6(46%), pre-existing disease in 4(31%) and aspiration in 2(2%) patients. There was insufficient information available in 3(23%) patients. Patients that demised had a younger age at surgery (13 *vs* 22 months, p = 0.047), lower weight at time of surgery (6.8 *vs* 10.4kg, p=0.045) and were more likely to have had prolonged hospitalization prior to surgery (in hospital >1 month or entire life *vs* home or care facility, p=0.001) compared to other patients. Regarding risk factors for multiple readmissions, congenital trachea-oesophageal fistula (n =7 vs 0, p=0.015) and oesophageal stricture (n=10 vs 2, p=0.021) were found to be significant, and underlying cardiac pathology (n=30 vs 15, p=0.064) tended towards significance. Surgical technique and immediate post-operative course were not significantly associated with higher mortality or risk of readmission.

Conclusion: Based on our experience, risk factors for demise within a year of Nissen fundoplication are young age, lower weight at surgery and an extended period in-hospital prior to anti-reflux surgery. The only identifiable risk factor for multiple readmissions is underlying oesophageal pathology.