parental projection of QOL. Perspectives from a cohort of parents of neonates at risk of severe neurodevelopmental outcome as defined by follow-up referral criteria (<29 weeks, Sarnat 2, IVH 3, PVL, severe neurological condition, severe genetic abnormality, exchange transfusion, ROP 3, diaphragmatic hernia or any condition having significant neurological impact) were compared with a control group including parents of all other neonates admitted to the NICU. Questions include likert scales (1 to 7) and yes/no answers. Variables were analyzed using Chi² test.

RESULTS: 107 questionnaires were returned (88%). 58 (54%) cohort group and 49 (45%) control. Both groups had similar income and level of education. Parents of cohort group projected more long term financial impact on the family (p<0.012). There were no statistical differences between the groups on projections of: physical and mental difficulties, pain and discomfort, longevity of life, having a chronic condition, feeling of difference and ability to cope, happiness and QOL, role in society, having friends and a family, ability to live alone and emotional impact on the family. Both group had low concernness perspective of risk of long term physical and mental difficulties, pain or child feeling different (mean score 1.7-2 out of 7), and rated high on children happiness, QOL and ability to cope (mean score 6.4-6.6 out of 7). Both cohort and control groups envisioned sequence with moderate rating on emotional impact on the family (mean score 2.4-3.2 out of 7). 100% of parents projected that their child would be self-sufficient for activities of daily living and able to find employment.

CONCLUSION: Parental projection of future QOL of infants hospitalized in NICU is not associated with known risks of neurodevelopmental sequelae. Most parents predict overall a good future quality of life for their child. Parental concerns focused more on the impact on the family.

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POST OPERATIVE NON-INVASIVE VENTILATION AND COMPLICATIONS IN OESOPHAGEAL ATRESIA-TRACHEOESOPHAGEAL FISTULA

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BACKGROUND: Advancements in critical care have been instrumental in the observed improvement in survival and complication rates in Oesophageal atresia/Tracheo-Oesophageal Fistula (OA-TOF). Nearly all neonates with OA-TOF undergo assisted ventilation at some point in the course of their post operative care. Post operative assisted ventilation strategies are heterogenous from one center to another and to date limited data are available to guide current practices of assisted ventilation in cases of OA-TOF.

OBJECTIVES: The present study aims to examine the impact of post operative assisted ventilation strategies on clinically relevant outcomes in a retrospective series of OA-TOF patients.

DESIGN/METHODS: A single center retrospective chart review was conducted including all neonates born with OA-TOF 1986-2016 for whom complete ventilatory data were available. Exclusion criteria: death prior to surgical repair, presence of pulmonary disease, cardiac malformation resulting in severe pulmonary hypertension. Primary data points evaluated were: Postoperative ventilation strategy, Survival, Anastomotic Leakage, Stricture, Pneumothorax and Mediastinitis. Statistical significance was determined using Chi-square test for p less than 0.05.

RESULTS: 70 patient charts were reviewed. Assisted ventilation was used in 69 infants. 1 infant was extubated from the operating room. 3 (4.3%) infants required HFOV postoperatively, 69 (98.5%) infants required conventional ventilation postoperatively and 19 (27.1%) were bridged with postextubation non-invasive ventilation (Continuous Positive Airway Pressure (CPAP), Non-invasive Positive Pressure Ventilation (NIPPV) or High-Flow Nasal Cannula (HFNC)). Survival was 68 (97%), incidence of stricture was 25 (35.7%), anastomotic leak 14 (20%), pneumothorax 9 (12.9%) and mediastinitis 4 (5.7%). 11 (15%) infants were on CPAP postoperatively. CPAP was statistically associated to stricture and death. 2 (2.9%) infants were on NIPPV post-operatively. NIPPV statistically associated to death. 6 (8.5%) infants were on HFNC post-operatively. HFNC was statistically associated to anastomotic leak. 10 (14.3%) infants had long gap OA-TOF. Long gap was statistically associated to leak, stricture, mediastinitis, pneumothorax and pneumonia. 8 (11.4) infants were reintubated. Reintubation was statistically associated to pneumothorax, mediastinitis and death.

CONCLUSION: The most important finding of the present study is that CPAP assisted ventilation is associated with a significantly higher rate of oesophageal stricture and HFNC assisted ventilation is associated with a significantly higher rate of anastomotic leakage following repair of OA-TOF. We hope to use these findings to develop guidelines for ventilation strategies in the care of babies born with OA-TOF.