PERIOPERATIVE AND EARLY AERO-DIGESTIVE OUTCOME OF NEWBORN WITH OESOPHAGEAL ATRESIA

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OBJECTIVE

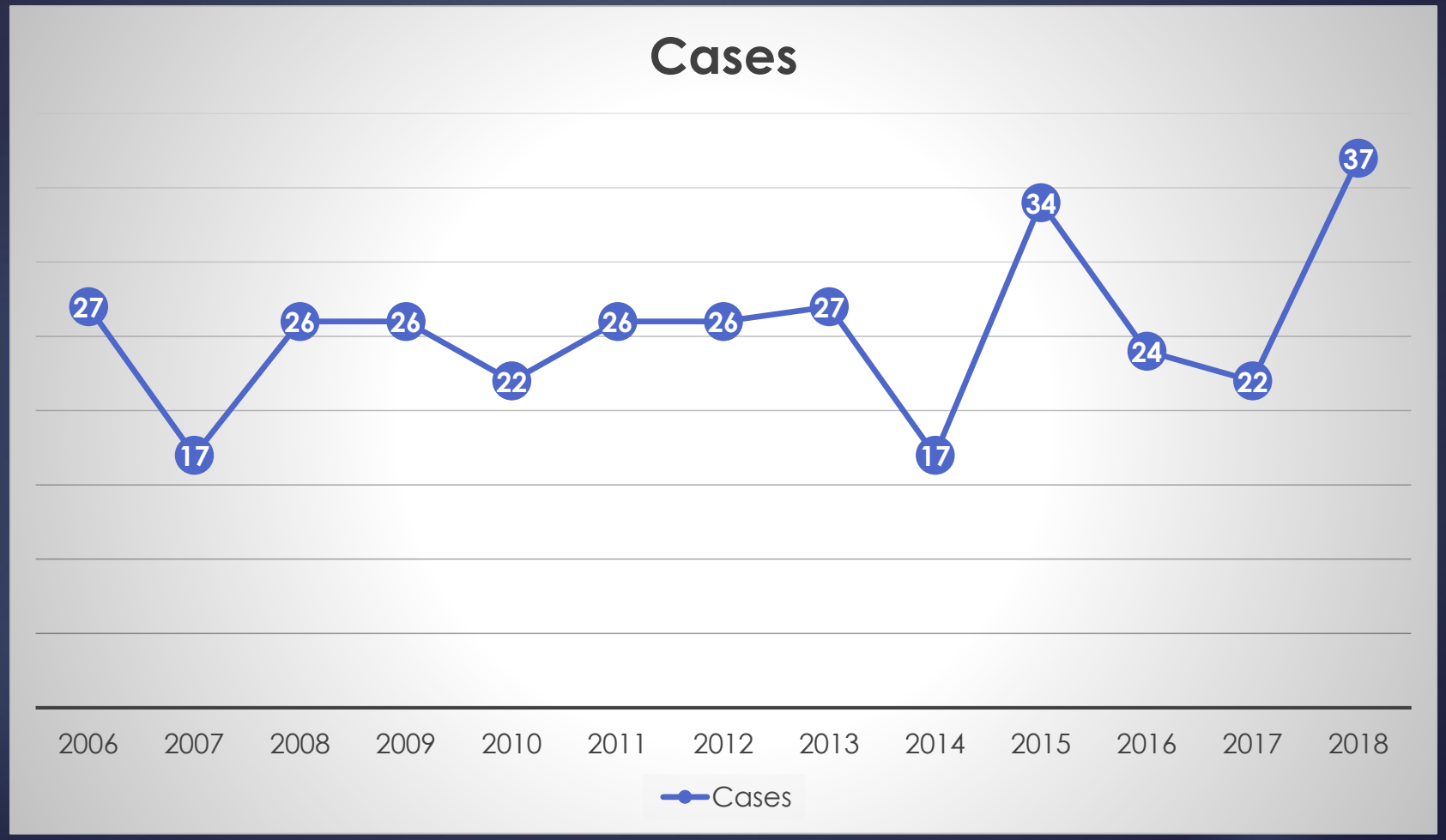
- **To study the demographic pattern**
  - Weight / Type / Surgery
- **To review perioperative outcomes**
  - Mortality
- **To review early aero-digestive outcomes**
  - Stricture
  - GERD
  - Dysmotility and need of feeding assistance
  - Malacic airway

METHOD

- **Study design**
  - Retrospective: year 2006 to 2018 (13 years duration)
- **Sample**
  - All neonates (<28days) with oesophageal atresia who were admitted to Institute of Paediatric HKL / Hospital Tunku Azizah

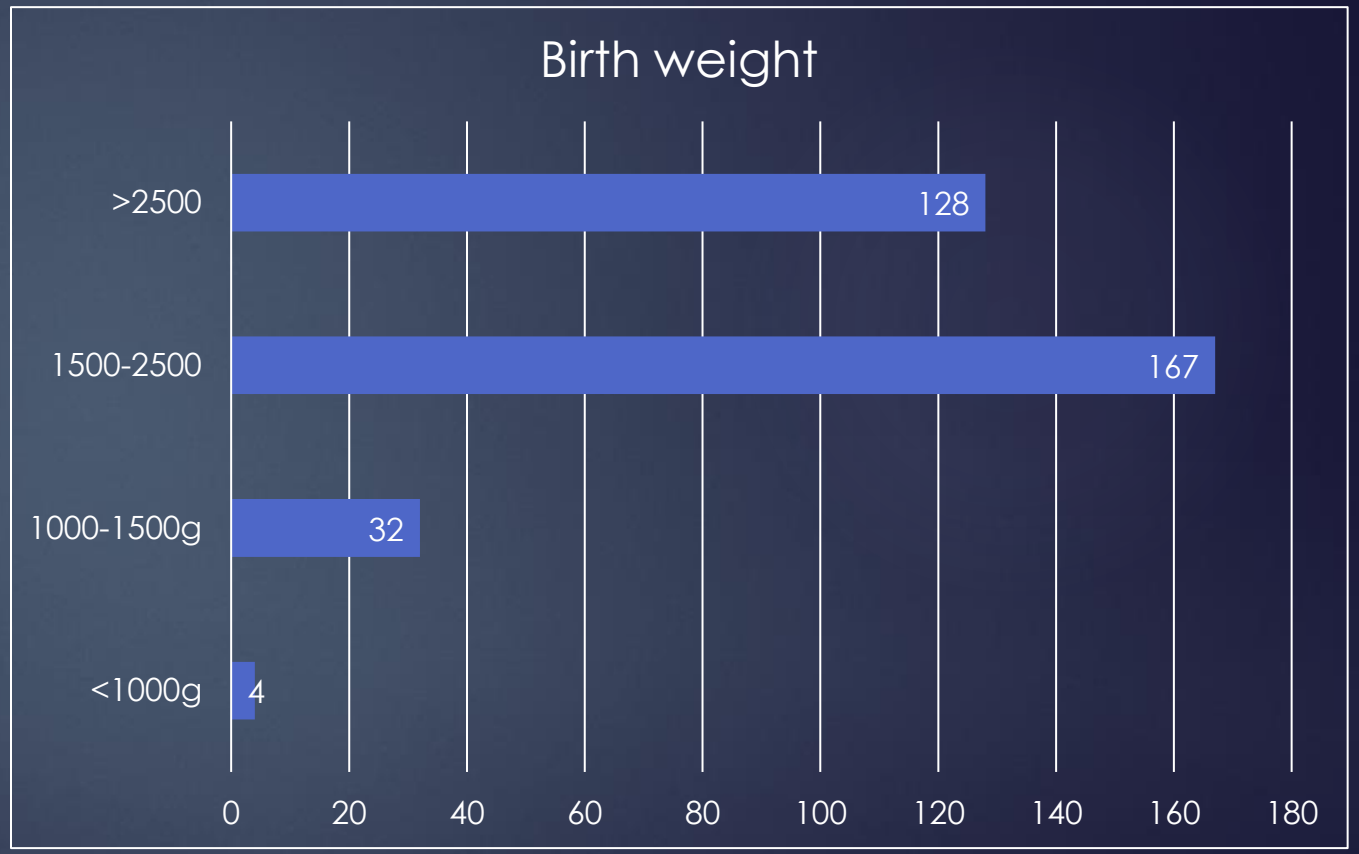
RESULTS

- Total number of cases: 331



RESULTS

- **Weight**
  - **>1500g: 295** (89.1%)
  - **<1500g : 36** (10.9%)



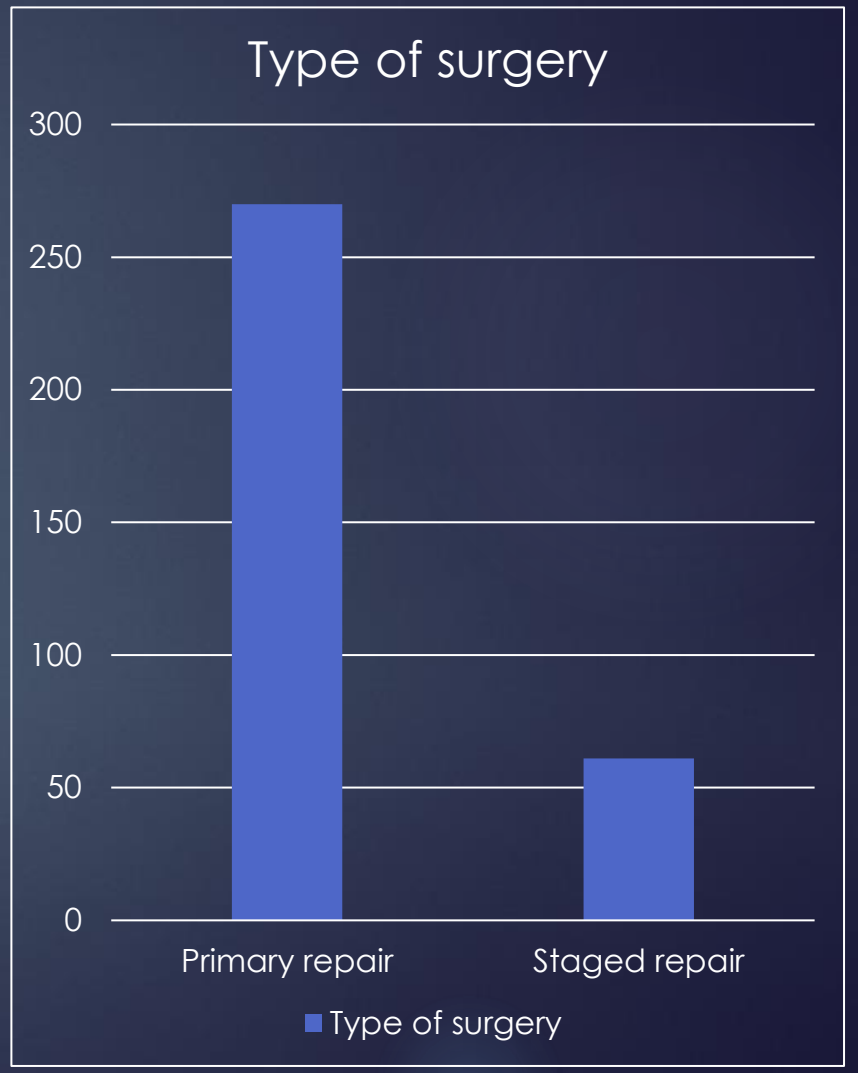
RESULTS

- **Type of oesophageal anomalies**

Type	Numbers	%
Pure OA	23	7.0
OA with distal fistula	306	92.4
OA with proximal fistula	1	0.3
OA with double fistula	1	0.3

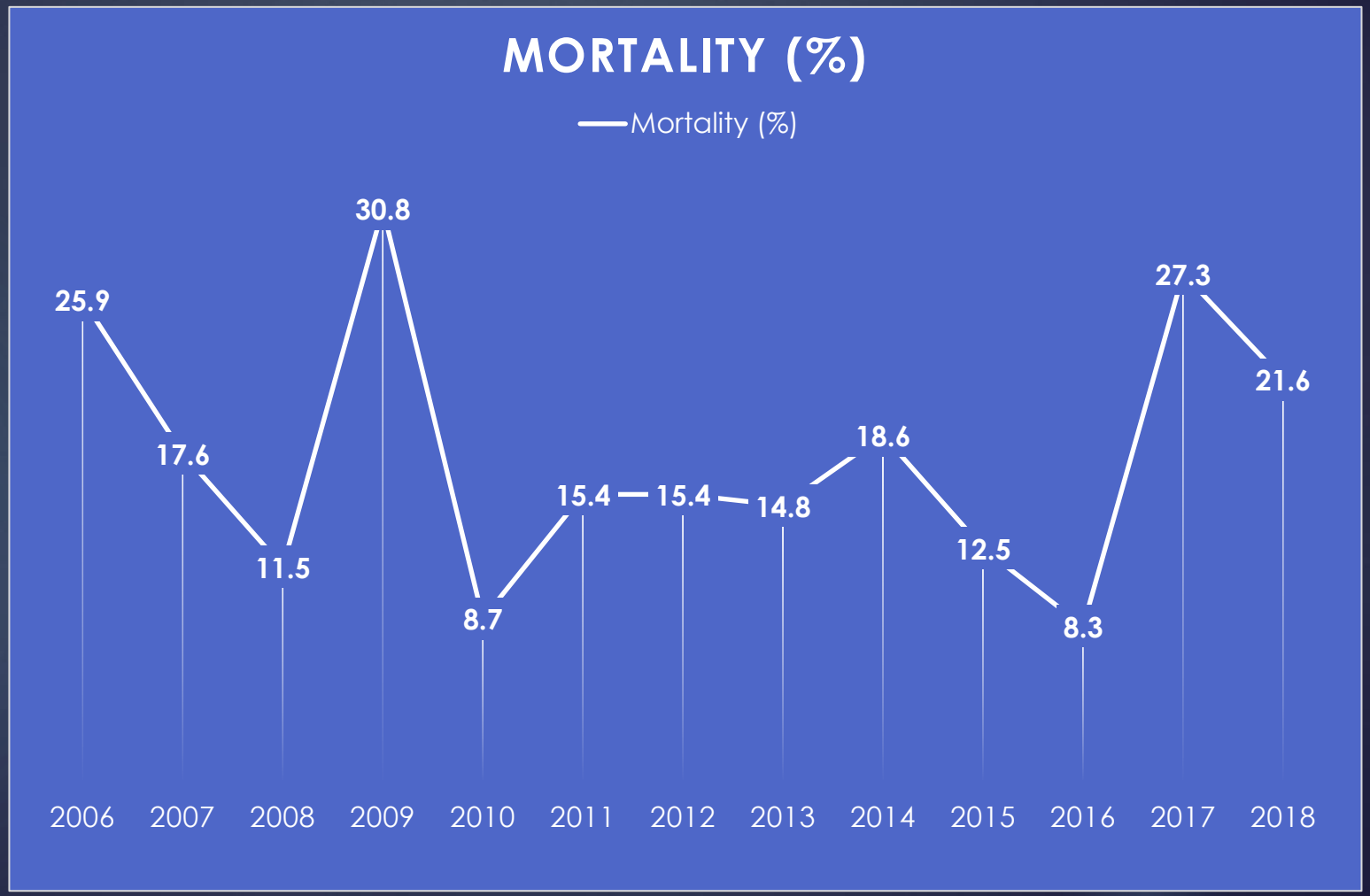
RESULTS

- **Type of surgery**
  - **Primary repair : 270** (81.6%)
  - **Staged surgery: 61** (18.4%)



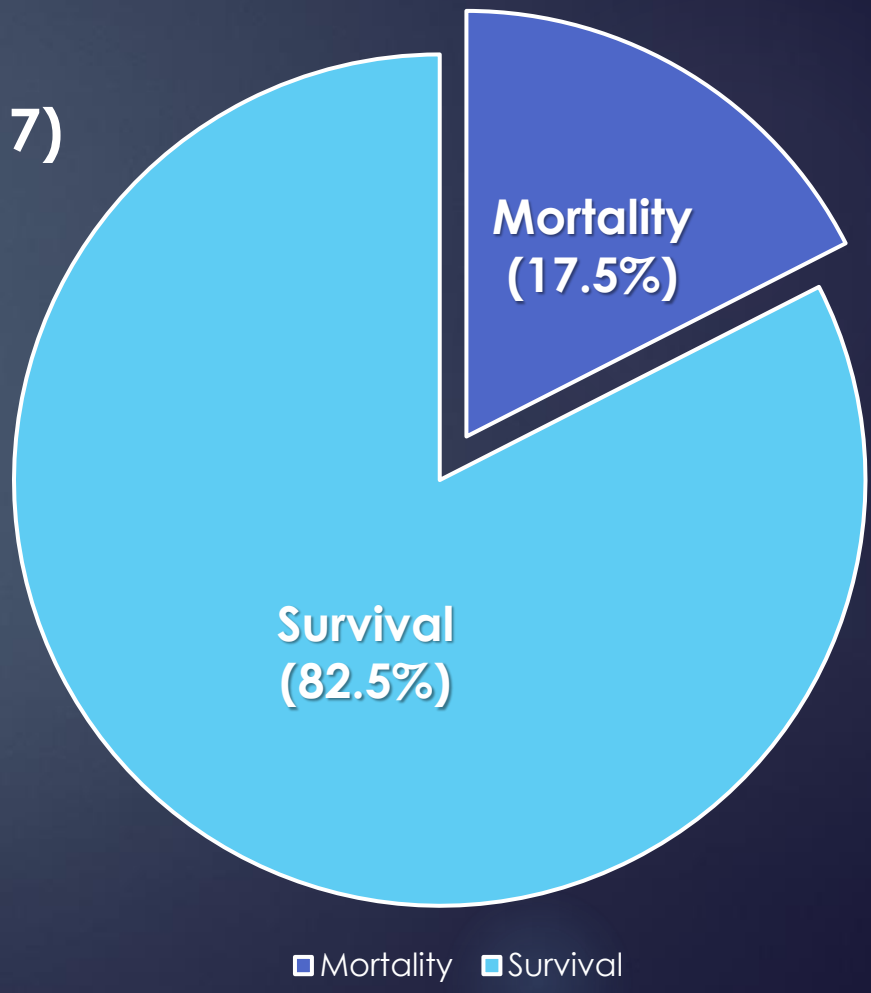
RESULTS

- **Mortality trend: 58**

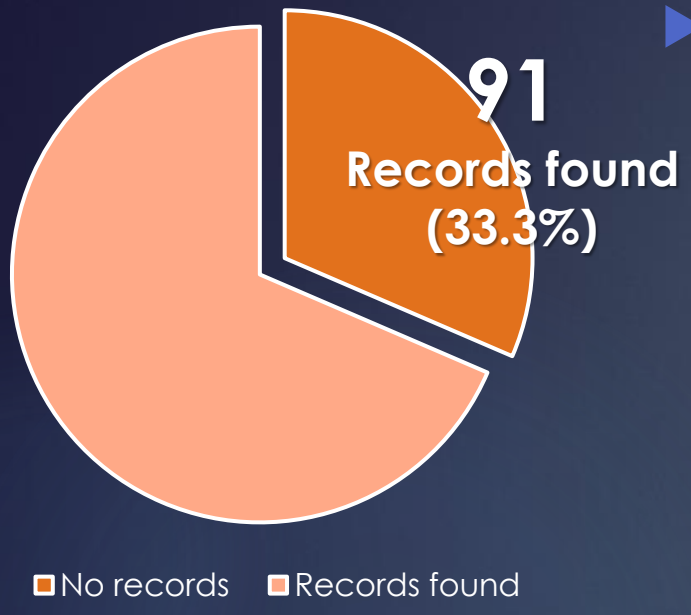


RESULTS

- Mortality among operated cases: 58 (17.5%)
- Main causes of death:
  - Severe cardiac anomaly 29.3% (17)
  - Respiratory failure 20.7% (12)
  - Postop complication 17.2 % (10)
    - Anastomotic leak 7
    - Tracheal leak 3
  - Sepsis 18.9% (11)
  - NEC 5.2% (3)
  - Others 8.6% (5)



RESULTS



- Early aero-digestive outcome
  - Out of 273 survivors, 91 records available for the study
    - 81.3% term
    - Half weighed >2.5kg
    - 91.2% OA with distal fistula
  - Surgery
    - 84.6% had single stage repair
    - 3 oesophagostomy
    - 24.2 % had gastrostomy

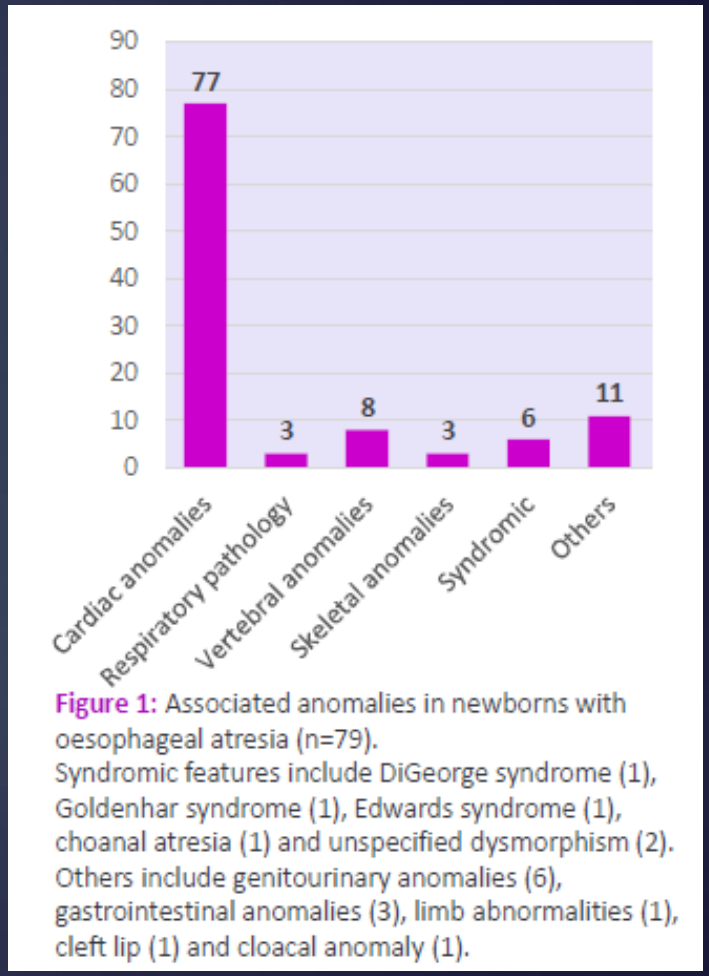


Figure 1: Associated anomalies in newborns with oesophageal atresia (n=79).
Syndromic features include DiGeorge syndrome (1), Goldenhar syndrome (1), Edwards syndrome (1), choanal atresia (1) and unspecified dysmorphism (2).
Others include genitourinary anomalies (6), gastrointestinal anomalies (3), limb abnormalities (1), cleft lip (1) and cloacal anomaly (1).

RESULTS

- **Outcome (n=91)**
  - 84 sent home *(1 died, 6 unknown)*
    - 17.9% require feeding assistance
    - 3.6% needed long term respiratory support
  - **Post-operative complications**
    - 47 GERD (51.6%)
    - 25 Stricture (27.4%)
    - 10 anastomotic leak (10.9%)

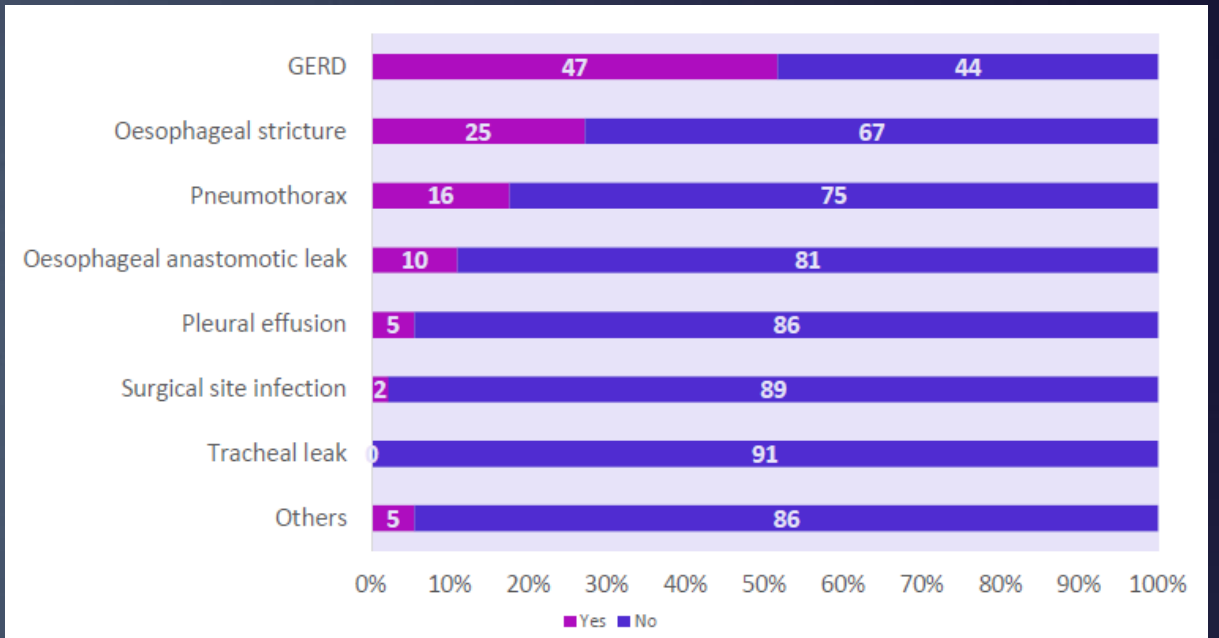
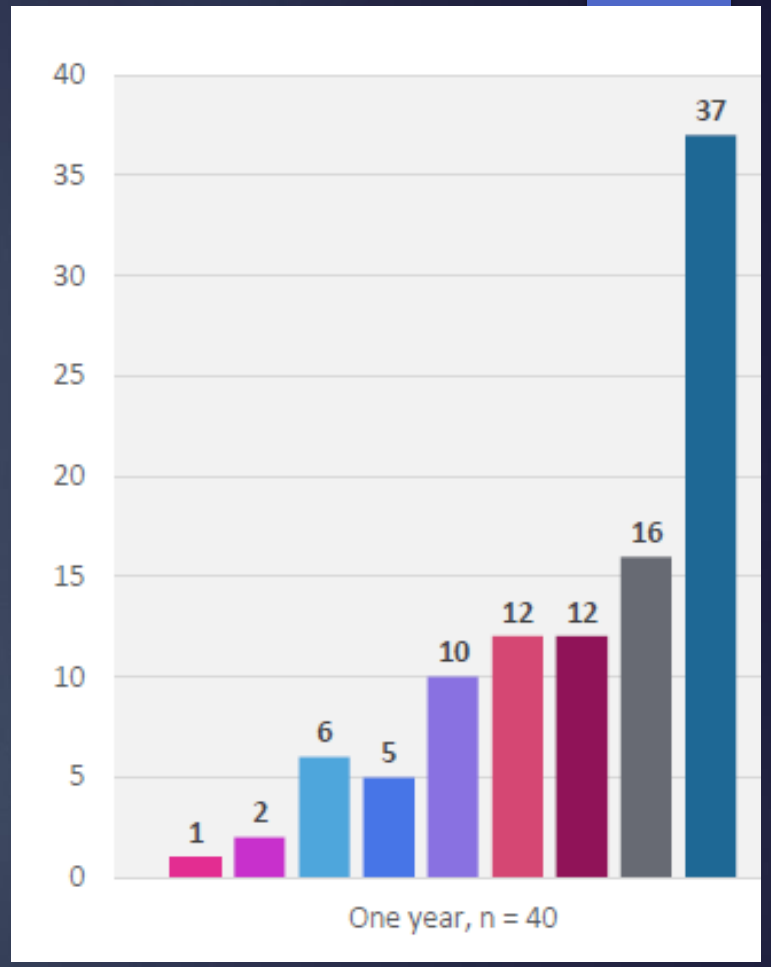


Figure 3: Immediate surgical post-operative complications (n=91).
Abbreviation: GERD, gastro-oesophageal reflux disease.
Others include oesophageal dysmotility (2), pneumonia (2), and chylothorax (1).

RESULTS

- Aerodigestive complication at 1 year f/up (n=40)
  - 37 GERD (92.5%)
  - 16 recurrent pneumonia (40%)
  - 12 stricture (30%)
  - 5 dysmotility (12.5%)



DISCUSSION

- **Mortality rate 17.5%**
  - Cardiac complication (26.2%)
  - Respiratory failure (21.4%)
  - Postop complication (21.4%)
- **Long-term outcome**
  - 1/3rd attended/required follow up (?Majority no major issue)
  - Digestive issue:
    - GERD is the commonest issue (up to 90% in 1 year)
    - 1/3rd has stricture
    - 17.9% feeding assistance
  - Airway issue: Recurrent pneumonia / malacic airway requiring respiratory support

LIMITATION

- Inadequate data for
  - For associated anomalies for both survival and mortality group (thus unable to classify according to Spitz classification)
  - Delayed outcome (probably there were managed by the primary referral center with no major issue for paediatric surgical tertiary center follow up)

CONCLUSION

- Managing newborn with OA is beyond surgical correction of the oesophageal discontinuity.
- Long-term outcome following surgical repair include GERD and stricture which contribute to the feeding and lungs problem.
- Early recognition of these morbidities is required for an early intervention.