

## A NATIONWIDE COHORT STUDY DESCRIBING OUTCOMES TO ONE YEAR POST-INTERVENTION FOR INFANTS IN THE UK WITH PREVIOUSLY SURGICALLY MANAGED NECROTISING ENTEROCOLITIS

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**Aim:** This study's aim was to describe on-going surgical interventions, and outcomes up to one year, for infants in the UK with previously surgically managed necrotising enterocolitis (NEC)

**Methods:** Infants born in the UK between 01/03/2013 and 28/02/2014 were eligible for inclusion in the study if they had suspected NEC where a decision for surgery was made, regardless of whether surgery was conducted. NEC was defined as bilious gastric aspirate/emesis, abdominal distension, or per-rectal bleeding, plus either pneumatosis intestinalis, hepato-biliary gas or pneumoperitoneum on abdominal radiography. Cases were notified via monthly reporting cards sent to every paediatric surgical centre in the UK, with data-collection forms sent in response to case notification and one year after notification.

**Results:** 204(86%) of the 236 originally enrolled infants had one-year follow-up data.

Forty-three infants (18%) died prior to 28-days post decision to operate, and 16(7%) died between 28-days and one year. One-year mortality rate was 25%. Median time to death was 9 days (IQR1-49 days).

Of the 192 infants with one-year follow-up and information recorded, 67(35%) had one further procedure, 31(16%) had two further procedures and 19(10%) more than two further procedures. 46 infants (24%) required a second laparotomy, of which 17(37%) were performed for stoma formation. The most commonly performed additional procedure was stoma closure, which was performed in 83 infants (43%). 66 stoma closures (80%) were performed electively. The median time to elective stoma closure was 98 days (IQR 52-148days). Gestational age at birth was not correlated with time to stoma closure.

**Conclusions:** This population-based study has highlighted that the majority of the mortality for infants with surgical NEC occurs in the first 10 days post-operatively. Surviving infants frequently require multiple further procedures in the first year of life. There is wide variation in timing of stoma closure when performed electively.