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IS STOMA FORMATION IN INFANTS BORN BEFORE 28 WEEKS GESTATION WITH ISOLATED INTESTINAL PERFORATION BEST SURGICAL PRACTICE?

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Aim of study: To evaluate post-operative outcomes of premature infants with isolated intestinal perforation (IIP) with a view to guiding the surgical management.

Method: A retrospective cohort analysis was conducted using a neonatal notes database. Predetermined data sets were collected.

Main results: The records of 122 infants born between January 2010 and December 2014 with a suspected diagnosis of necrotising enterocolitis (NEC) or IIP were analysed.

Infants were divided into two cohorts based on gestational age at birth: Group A (extremely premature) born at 23 to 28+0 weeks gestation and Group B (very premature) born at 28+1 to 37+0 weeks gestation. There were 72 infants in Group A and 50 infants in Group B.

9 (12.5%) infants in Group A and 6 (12%) in Group B were diagnosed with IIP. All had surgical management.

4 of the 9 (44%) infants in Group A had a primary end-to-end-anastomosis following bowel resection. 3 of these (75%) developed post-operative NEC, including one death. The other 5 babies had a stoma formed at surgery and did not develop NEC. (Figure 1)

No infants with IIP in Group B, regardless of the surgical management, developed post-operative NEC.

Conclusion: This study suggests that extremely premature (<28 weeks gestation) infants undergoing primary end-to-end anastomosis for IIP are likely to develop post-operative complications, including NEC. We would therefore suggest stoma formation in this group of vulnerable neonates and that a multicenter study should be undertaken to examine this further.