

NECROTISING ENTEROCOLITIS (NEC) Supporting information

Are repeat x-ray examinations necessary?

A retrospective chart review of 105 neonates with stage 2 NEC (Najaf, 2010) found those not needing surgery (n=59) were exposed to significantly more x-ray examinations than those needing surgery (n=46). As bowel perforation occurred at a median interval of 1 day after clinical presentation, the authors concluded that x-ray examinations could be “safely minimized or eliminated after 2 days of presentation.”

Najaf TA, Vachharajani NA, Warner BW, et al. Interval between clinical presentation of necrotizing enterocolitis and bowel perforation in neonates. *Pediatr Surg Int* 2010;26:607-9

Evidence Level: IV

How effective are probiotics at preventing NEC in high risk babies?

In a meta-analysis of RCTs, enteral probiotics supplementation was found to significantly reduce the incidence of severe NEC (stage II or more) (typical relative risk (RR) 0.43, 95% confidence interval (CI) 0.33 to 0.56; 20 studies, 5529 infants) and mortality (typical RR 0.65, 95% CI 0.52 to 0.81; 17 studies, 5112 infants) (AlFaleh, 2014). The included trials reported no systemic infection with the supplemental probiotics organism. Probiotics preparations containing either lactobacillus alone or in combination with bifidobacterium were found to be effective.

A systematic review of observational studies agreed with the earlier review by AlFaleh, concluding that probiotic supplementation reduces the risk of NEC and mortality in preterm infants (Olsen, 2016). This review included 12 studies with 10,800 premature neonates (5,144 receiving prophylactic probiotics and 5,656 controls) and found a significantly decreased incidence of NEC (risk ratio, RR = 0.55, 95% CI 0.39 to 0.78) and mortality (RR = 0.72, 95% CI, 0.61 to 0.85).

AlFaleh K, Anabrees J. Probiotics for prevention of necrotizing enterocolitis in preterm infants. *Cochrane Database Syst Rev*. 2014:CD005496

<http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD005496.pub4/full>

Olsen R, Greisen G, Schrøder M et al. Prophylactic Probiotics for Preterm Infants: A Systematic Review and Meta-Analysis of Observational Studies. *Neonatology*. 2016;109:105-12

<https://www.karger.com/Article/FullText/441274>

Evidence Level: I

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