The Effectiveness of the Use of Probiotics in the Prevention of Necrotizing Enterocolitis

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PATIENT CARE ISSUE

Necrotizing Enterocolitis (NEC) - Disease process in which mucosal integrity is lost, allowing the onset of infection in the bowel wall by colonizing bacteria.

This gastrointestinal disease affects nearly 10% of very low birth weight (VLBW) premature infants, resulting in mortality rates of 15-30%.

Very Low Birth Weight (VLBW) - Includes infants born weighing <1500 grams

Probiotics - "Microbial food supplements that beneficially affect the host by improving its intestinal microbial balance," sometimes known as "good" bacteria.

EVIDENCE-BASED PRACTICE QUESTION

Question: In very VLBW infants, does the use of prophylactic (preventative) probiotics decrease the incidence of necrotizing enterocolitis?

Population – VLBW infants

Intervention – use of prophylactic probiotics

Comparison – no use of probiotics

Outcome – prevention of necrotizing enterocolitis

EVIDENCE-BASED PRACTICE RECOMMENDATIONS

• Additional research is not needed to establish the effectiveness of probiotics in the prevention of NEC

• Probiotic use should become a standard in practice among NICUs in the care of VLBW infants

• Until these changes can be established, probiotics should be an informed option for parents

SEARCH METHODS

Databases utilized: CINAHL, Cochrane, Medline, PubMed, ScienceDirect, UpToDate

Keywords searched: Probiotics, Necrotizing enterocolitis (NEC), Prophylactic, Prevention, Nursing, Very low birth weight (VLBW), Preterm

Inclusion criteria: Probiotics being used for prevention of NEC in VLBW infants

Exclusion criteria: Published before 2008, Probiotics used as treatment, Full text not available or not in English, Extremely low birth weight (ELBW, <1000 grams) infants

LEVELS OF EVIDENCE

Level 1 - Meta-Analyses (2,5,7,13) and Systematic Reviews (1,10)

Level 2 - Randomized Controlled Trials (3,9,11)

Level 4 - Cohort Studies (8)

SYNTHESIS OF EVIDENCE

Specific Findings Noted in Articles

- AlFaheh & Albarees, 2014
- Deshpande et al., 2010
- Lin et al., 2008
- Wang et al., 2011

All studies reported a decrease in the incidence of necrotizing enterocolitis in response to prophylactic probiotic therapy.

REFERENCES


