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Stopping feeds for prevention of transfusion-associated necrotising enterocolitis in preterm infants

Human milk-derived fortifier in preterm infants fed with all breast milk

Stopping feeds for prevention of transfusion-associated necrotising enterocolitis in preterm infants

Authors: Yeo K, Kong J, Sasi A, Tan K, Lai N, Schindler T

Review question

In preterm infants, does stopping feeds around the time of a packed red blood cell transfusion result in decreased risk of developing necrotising enterocolitis (NEC) or death?

Background

NEC is a serious inflammatory gut disease that is associated with high rates of morbidity and mortality in preterm babies. It is well known that certain feeding practices have an impact on the chance of a preterm baby developing NEC, and evidence suggests that packed red cell transfusions, which are often required during a preterm baby's intensive care admission, may have a role in the development of this disease. The effects of feeding a baby during a red cell transfusion and subsequent development of NEC are currently unclear, and significant practice variation exists.

Study characteristics

Through searches of medical databases up to November 2018, review authors found seven studies that assessed the effects of stopping feeds during blood transfusion. Of these seven, one study was a non-randomised observational study, four studies are ongoing, and one study was terminated with no results available. Only one study involving 22 preterm infants was eligible for inclusion in the review.

Key results

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Randomised controlled trials have provided limited evidence on the effects of feeding practices during blood transfusion and the development of NEC. Only one small trial was included in the analysis, and this trial did not report any cases of transfusion-associated NEC in the enteral feeding or non-feeding groups.

Quality of evidence

Data were insufficient to allow any meaningful conclusions based on the very low quality of evidence according to the GRADE rating. Large randomised controlled trials are needed to answer the review question.

Human milk-derived fortifier in preterm infants fed with all breast milk

Authors: Premkumar MH, Pammi M, Suresh G

Review question: In preterm infants fed only breast milk, does the use of extra nutrients (to provide extra protein and energy) made from human milk compared to nutrients from cow's milk decrease the chances of illnesses, death or improve growth?

Background: Preterm infants fed with breast milk need extra energy and protein to support their growth. Hence, nutrients (multi-nutrient fortifiers) are added to the breast milk. It is not clear if nutrients made from human milk, when compared to nutrients made from cow's milk, decrease the risk of death and other illnesses, and improve growth in preterm infants who are fed only with breast milk.

Study characteristics: We found one well-performed study that enrolled 127 infants addressing this question. Evidence is up to date as of 20 September 2018.

Key results: The use of nutrients made from human milk, when compared with nutrients made from cow's milk, did not reduce the risk of intestinal disease (necrotizing enterocolitis), feeding problems, death, infections, or improve growth in preterm infants fed with breast milk.

Conclusions: Nutrients made from human milk (multi-nutrient fortifier), when compared with nutrients made from cow's milk, may not change the occurrence of illnesses or improve the growth in preterm infants fed only with breast milk. This evidence is insufficient to conclude whether nutrient made from human milk (multi-nutrient fortifier) when provided to preterm infants fed only with breast milk is beneficial or not. More studies are needed to address this important question.

If you have any questions or comments with regard to the above document please feel free to contact me.

Kind regards

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