

Novel Strategy to Determine Practice in a Neonatal Intensive Care Unit in Canada

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In medical practice the role of standardized care led by specific guidelines and policies especially in an intensive care setting so as to minimize individual clinician bias and variability cannot be undermined. This is especially true in university hospitals where trainees are often involved in taking care of the sickest patients.

While training in neonatology and working in the Neonatal Intensive Care Unit (NICU) physicians often come across clinical conundrums which are not as common or straightforward and for which there might not be specific best practice guidelines due to lack of enough evidence. This is a perspective of a senior fellow about formulating a best practice policy in a unit including all senior learners. The strength in this 'method' is their involvement from beginning till the end in this process, giving them an incentive to search for evidence and a platform to discuss and debate the same and at the same time weigh all logistical issues.

Transfusion associated necrotizing enterocolitis (TRANEC) is an entity which though uncommonly encountered can be

devastating. The pathophysiology of gut necrosis within 48 hours of a red-blood cell (RBC) transfusion still remains a matter of research and multi-factorial causality is hypothesised. Some of the pre-disposing factors thought to be associated are earlier gestational age, post-menstrual and chronological age, degree and duration of anemia, number of prior red blood cell transfusions, adoption of standardized feeding practices and other predisposing factors like persistent ductus arteriosus.

A discussion about modifiable risk factors for this entity brought us to the question of should we be cautious regarding feeding practices during and immediately after RBC transfusions in our preterm NICU population. There are no randomized controlled trials to answer this specific question.

We proceeded to divide the group of trainees in our NICU into two groups, for and against adopting a cautious approach to feeding during transfusing our preemies. These two sets of fellows analysed the existing evidence and prepared to debate

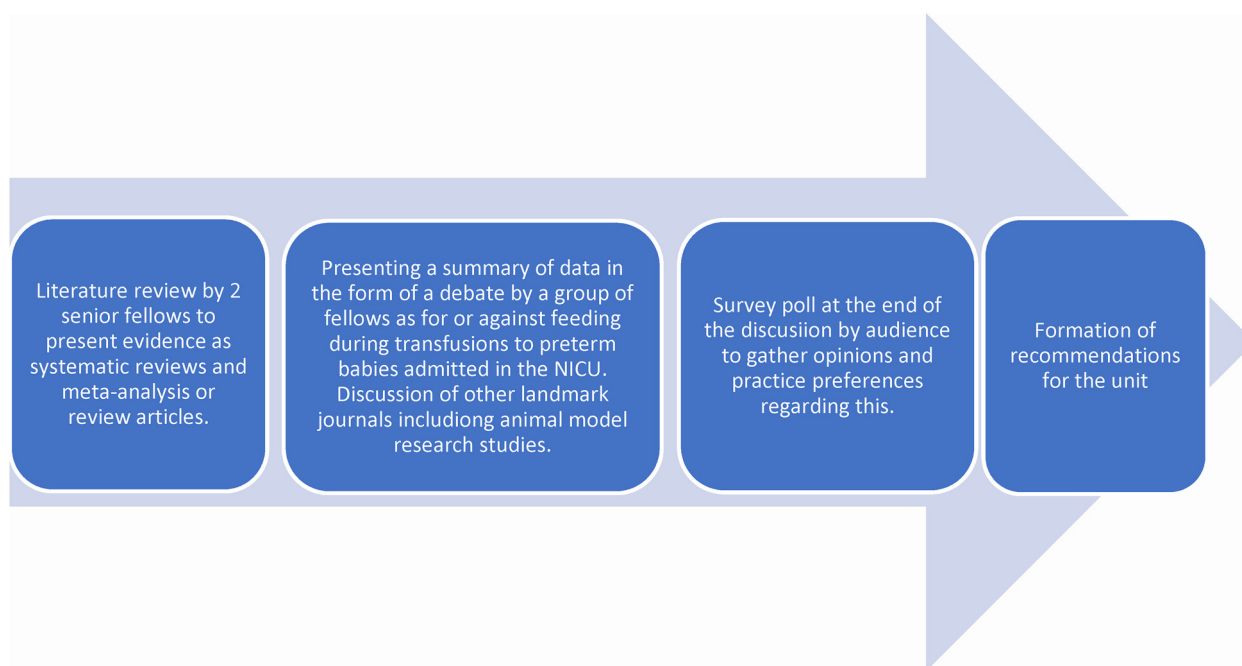


Figure 1. Pathway for formulation of practice with learners in a NICU setting.



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the issue in front of an audience of medical experts and allied health-care workers.

An online survey was sent around to the audience after the discussion to understand the general opinion of the NICU staff and the impact of the debate. Figure 1

Results of the Survey

The online survey was sent to 25 attendees (physicians) and 20 (80%) took the survey. 13/20 (65%) thought that there was not enough evidence to hold feeds during transfusion but 18/20 (90%) physicians would choose to hold feeds. Majority of clinicians would consider multiple factors when deciding, hold feeds for a duration spanning the transfusion and upto 6 hours after (45%) and also be cautious when re-introducing feeds in transfused babies. 90% (18/20) agreed that this was a useful way to decide on a practice policy in a unit.

A few things discussed at the end included considering point-of-care abdominal ultrasound scans to assess blood flow, peristalsis and gut health and somatic near-infrared spectroscopy (NIRS) to assess tissue perfusion in the peri-transfusion period.

After this discussion a staff meeting was held and a decision was taken to approach the researchers of the WHEAT Trial (WithHolding Enteral feeds Around packed red cell Transfusion to prevent necrotising enterocolitis in preterm neonates) in United Kingdom for participating in their project as it is prospectively analyzing the question discussed in multiple centres.

The References given below are the journal articles included in the debate results.¹⁻⁷

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None

Author Contributions

Sriya Roychaudhuri is the main author who was involved in conceptualizing and execution of the strategy. Mimi Kuan is a research assistant who helped with the technical issues, organizing, survey analysis and computation of the results of the analysis.

Ethical Approval

Not applicable, because this article does not contain any studies with human or animal subjects.

Informed Consent

Not applicable, because this article does not contain any studies with human or animal subjects.

Trial Registration

Not applicable, because this article does not contain any clinical trials.

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