

## Toward Evidence-based Prevention & Diagnosis of NEC in the Neonate

### Objectives

- Recognize that the burden of necrotizing enterocolitis (NEC) as a disease is best addressed through prevention rather than response to often catastrophic complications
- Discuss the suggested implications and potential impact of select neonatal intensive care unit practices on disease course and outcomes related to necrotizing enterocolitis (NEC) as a result of care provided to preterm neonates
- Explain the significant role that ideal diagnostic and prognostic biomarkers could play in identifying and differentiating classical necrotizing enterocolitis (NEC) from other non-NEC conditions
- Outline the challenges encountered in identification of ideal biomarkers and describe current findings regarding potential serum, urine, and fecal biomarkers
- Summarize the transcriptomic, proteomic, and metabolomic studies described in the evaluation of potential markers for diagnosing NEC

### Content Outline

1. Prevention of Necrotizing Enterocolitis (NEC)
  - 1.1 Recognition of NEC as representative of different disease entities
  - 1.2 Feeding practices including early enteral feeding
  - 1.3 Composition of feedings
    - 1.3.1 Human milk versus donor milk
    - 1.3.2 Role of milk fortifiers
  - 1.4 Impact of NPO status during transfusion therapy
  - 1.5 Medications and Probiotic use
    - 1.5.1 Histamine-2 receptor blockers
    - 1.5.2 Antibiotics
    - 1.5.3 Single-strain versus multiple-strain probiotics
2. Identifying Biomarkers of Necrotizing Enterocolitis
  - 2.1 Overview and challenges of ideal biomarker identification of NEC
  - 2.2 Characteristics of ideal NEC biomarkers and current status
    - 2.2.1 Serum
    - 2.2.2 Urine
    - 2.2.3 Fecal
  - 2.3 Transcriptomic, proteomic, metabolomic evaluations of diagnostic markers for NEC

### Reading Material Resources

**Module WB2442: Toward Evidence-based Prevention & Diagnosis of NEC in the Neonate** is based on the resources listed below. A copy of each resource is included with the module.

Prevention of Necrotizing Enterocolitis, Neu J, *Clinics in Perinatology* 49 (2022), 195-206

Biomarkers of Necrotizing Enterocolitis: The Search Continues, Gunasekaran A et al., *Clinics in Perinatology* 49 (2022), 181-194