



The impact of prematurity, feeding intolerance, feeding practices and the hospital environment on the gut microbiome of the preterm infants

Joanne Meran

UHB NHS Foundation Trust, UK

Abstract:

The nutritional requirements of preterm infants are unique and challenging to meet in neonatal care, yet crucial for their growth and development. The development of the gut microbiota is associated with the gestational age. However, the variation in gut microbiota composition is linked to a unique set of environmental conditions, including the environment of the Neonatal Intensive Care Unit (NICU), its associated common clinical practices and feeding regimens. Simultaneous maturation of the gut microbiota, gastrointestinal tract, and immune system in early life are playing a cornerstone role in infant growth and development. Impaired maturation of the gut microbiota, gastrointestinal tract, and immune system could have serious health consequences. More than half of the hospitalised preterm infants are being discharged with ongoing severe post-natal growth impairment which in turn is associated with poor neuro-cognitive functions. Strict feeding regimens are needed in the neonatal period to stimulate maturation processes, growth, and organ development. We will describe the preterm gut microbiota composition, the environmental conditions contributing to this; and the interaction between feedings, the gut microbiota, the gastrointestinal tract maturation and the immune system with the emphasis on the benefit from weight gain, implicating growth can be considered as health indicator.

Biography:

Joanne Meran having more than 28 years experience in neonatal intensive at a lead consultant levels in the insti-



tute of neonatology of Paris and the tertiary neonatal intensive care centres in UK with a main interest in neonatal neurology and neurodisabilities. My interest in feeding of the preterm babies comes from the fact of its close link to neurocognitive outcomes and their effects on gastrointestinal motilities which could extend well beyond their discharge from the neonatal units.

Publication of speakers:

1. Joanne Meran . Long-term health effects of chemical warfare agents on children following a single heavy exposure. *Human & Experimental Toxicology*, 2018; 37 (8): 836-847.

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