The Importance of Human Milk for the Preterm Infant

There are overwhelming data to show that human breast milk is superior to formula milk when considering a range of outcomes in term born infants. Fortunately, many of these benefits are even greater in infants born preterm. Whilst there is continued uncertainty over the precise role of donor expressed breast milk, existing data are consistent and continue to show that maximising the duration and amount of mother’s own breast milk that infants receive will result in better outcomes. Preterm infants who receive mother’s own milk have lower rates of sepsis and necrotising enterocolitis, and better neurocognitive outcomes. Breast milk is a complex biological mixture that will never be replicated by cow’s milk based artificial formula. In addition, the structures of key human milk proteins and lipids are different to those from bovine milk. However, many of the human milk constituents also have ‘functional’ properties meaning they exert a beneficial effect over and above that provided by the micro- or macronutrient content alone. This presentation will consider some of the functional properties of breast milk including lactoferrin, live bacteria and human milk oligosaccharides (HMOs) and how they might interact with the immune system in the developing gastro-intestinal tract to promote ‘gut health’. The talk will discuss potential roles of nutrients such as lactoferrin, the ingestion and metabolic function of HMOs and how they ‘feed’ beneficial bacteria such as bifidobacteria. These elements will also be considered alongside the potential contribution of bacteria naturally present in breast milk, and how these may interact to ‘shape’ a healthy pattern of gut bacteria (the gut ‘microbiota’) for preterm infants.