

TITLE: INFANT GUT COLONIZATION IN A NEONATAL INTENSIVE CARE UNIT

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ABSTRACT:

Gastroschisis and omphalocele are conditions related to a defect in the closure of the abdominal wall during intrauterine development. These disorders are corrected immediately postpartum and newborn remains hospitalized in a neonatal intensive care unit (NICU), with parenteral nutrition, antibiotics administration and without breastfeeding until the beginning of bowel function. During hospitalization in the NICU, the newborns are susceptible to environmental influences, with consequent disorder of the intestinal microbiota and possible proliferation of pathogenic bacteria. The aims of the study was measure the bacterial genus *Bifidobacterium*, *Lactobacillus*, *Escherichia coli* and all bacteria, by real time PCR, in the composition of the intestinal microbiota of neonates during the hospitalization period in a NICU. Stool samples or orogastric samples of twenty newborns hospitalized in a NICU will be quantified weekly for bacterial genera selected. The analysis of all bacterial counts showed lower values when compared to studies with healthy neonates. The bacterial genus *Lactobacillus* was not present in every time of hospitalization of each neonate. In some newborns *Escherichia coli* was present during all the hospitalization period, being predominant, whereas for others newborns the genus was not present all the time. Ultimately, *Bifidobacterium* was found in all newborns, but not in almost all the evaluated times. The administration of antibiotics in some of this neonates, correlated with lost in total bacteria levels, *Bifidobacterium* and *Lactobacillus* levels. Twelve cases of sepsis occurred during hospitalization in NICU. Factors as period of hospitalization, period of parenteral nutrition, use of antibiotics and sepsis, influenced for the diversity microbiota profile found in this neonates. Even for neonates who did not receive antibiotics the NICU environment was able to influenced the microbiota profile, with low counts of total bacteria levels and *Lactobacillus*.

Keywords: gut microbiota, 16s, preterm infant.

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