LACTOBACILLUS FERMENTUM CECT5716, A HUMAN MILK PROBIOTIC STRAIN, REDUCES STAPHYLOCOCCUS COUNTS IN BREAST MILK AND PREVENTS LACTATIONAL MASTITIS IN WOMEN

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Introduction:
During breastfeeding period, women can experience a range of breast related problems, such as breast and nipple pain, nipple cracks and mastitis. Mastitis is an inflammatory condition of the breast that is usually associated with lactation. The reported incidence is around 15% but can reach values as high as 35% when any clinical mastitis case is considered. Human mastitis is characterized by a mammary bacterial dysbiosis, a process in which the population of mastitis agents such as Staphylococcus, increases at the expense of the normal mammary microbiota.
Previous studies have demonstrated that L. fermentum CECT5716, a probiotic strain previously isolated from breast milk, can be used as an effective treatment of mastitis and painful breastfeeding by reducing pathogen counts in breast milk.
The objective of the present study is to evaluate the preventive effect of the consumption of Lactobacillus fermentum CECT5716 on mastitis incidence in lactating women.

Methods:
A randomized double blinded controlled study including 600 women was conducted. Women were recruited 1-6 days after childbirth and randomly assigned to a group.
Intervention: Probiotic group received 1 capsule/day containing L.fermentum 3x10^9 cfu; Control group received 1 placebo capsule/day containing maltodextrin. The intervention period was 16 weeks.
The primary outcome of the study was the incidence of clinical mastitis defined as: at least two out of the three breast symptoms (pain, redness, lump) and at least one of fever or flu-like symptoms (shivering, hot sweats or aches). Secondary outcome was bacterial load in breast milk. Secondary outcomes were also growth and health of infants of infants.
This study was carried out according to the Helsinki declaration, and the protocol was approved by the Regional Ethics Committee of the Sistema Andaluz de Salud based in Seville (Spain).

Results:
Two hundred and ninety-four women completed 16 weeks of treatment. Incidence rate of mastitis in Probiotic group was significantly lower than in Control group (IR=0.130 in Probiotic group vs IR=0.263 in Control group; p=0.021) (Table 3). Specifically, the consumption of Lactobacillus fermentum CECT5716 during lactation decreased by 51% the incidence rate of clinical mastitis. The probiotic treatment induced a significant decrease in Staphylococcus load in breast milk of women (p=0.013). No significant differences were detected in Staphylococcus and Lactobacillus load. Growth of infants were similar in both groups. Values of incidence of total diseases,respiratory infections and diarrhea were lower in probiotic group than in control group but differences were not significant.

Discussion:
Staphylococcus has been identified as the main causal agent of lactational mastitis. Probiotic treatment might modulate breast milk microbiota reducin the load of potencially pathogens as Staphylococcus.

Keywords: Lactobacillus, Probiotics, Human milk, Staphylococcus, Mastitis, Breastfeeding

Citation: