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**IN VITRO STUDY OF ANTI-INFLAMMATORY ACTIVITIES FOR VARIOUS PROBIOTICS STRAINS**

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**Objectives and study:** The aim of this study is to screen promising probiotics strains according to their in vitro inhibitory effects on pathogen-induced inflammation of intestinal epithelium cells.

**Methods:** Different commercial Lactobacillus strains were investigated. Inflamed differentiated Caco-2 cells were triggered by Salmonella lipopolysaccharide for 48 hours. Lipopolysaccharide was removed after 24 hours of inoculation and different concentrations of Lactobacillus were apically cultured with the inflamed Caco-2 cells for another 24 hours. Immune responses, including chemokine secretion (TNF-alpha and IL8) and gene-expression (RT-PCR) (IL6, IL8 and TGF-beta) were studied at different time points for characterization of changes in Caco-2 cells cocultured with or without lactobacilli.

**Results:** The mRNA expression of various cytokines and IL-8 secretion in lactobacilli-treated Caco-2 cells were lower compared with controls. Lactobacillus acidophilus exerted the obvious anti-inflammatory effect on the Salmonella lipopolysaccharide-stimulated intestinal epithelium. Additionally, most Lactobacillus strains displayed various anti-inflammatory capabilities in different time points and doses.

Group	Probiotics conc. (cfu/ml)	1 hour	24 hours
Negative control		18.625	15.708
L. acidophilus	1X10 <sup>9</sup>	15.917	*6.958
L.acidophilus DHA-1	1X10 <sup>9</sup>	22.583	*11.958
L.variety rhamnosus	1X10 <sup>9</sup>	22.583	*5.708
L. paracasei AAP-1	1X10 <sup>9</sup>	16.333	19.667

[Table 1. Inhibition of TNF-alpha secretion]

**Conclusion:** The chosen Lactobacillus strains can be good candidates as probiotic therapeutic agents for anti-inflammation. Our in vitro Caco-2 cell culture may provide a reliable and reproducible model for large-scale surveys in the characterization of commercial probiotics.

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**INTESTINAL INTUSSUSCEPTION AT COSTA RICA'S CHILDREN'S HOSPITAL: AN 8-YEAR STUDY**

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**Background and aims:** The possibility of intestinal intussusception (II) following the introduction of rotavirus (RV) vaccines in infants is a global concern. Continuous surveillance of II cases is mandatory in these countries. The objective of this study was to describe all documented cases of II in infants < 24 months of age hospitalized at the pediatric tertiary referral and teaching hospital of Costa Rica during an 8-year period. This baseline information is important considering that RV vaccine is scheduled for introduction soon in our country.

**Methods:** Retrospective descriptive chart review study of patients (pts) < 24 months of age with a discharge diagnosis of II, who were admitted at our center from Jan 1st, 2001 to Dec 31, 2008.

**Results:** During this 8-year period, 182 pts were discharged with diagnosis of II. The average annual hospitalization rate for II among infants in the HNN was 31/100.000p/year. 57.7% were male; distribution by age groups was: 0-6 months, 80(43.9%); 7-12 months, 83 patients (45.6%); and >13 months, 19 pts(10.3%). Mean age was 7.7 months. US was the most frequent method for dx, 167/182(97.6%). Enema reduction was performed in 151/182, and reduction was achieved on 79/151(52.32%).

Surgical reduction was required in 103/182(56.6%) pts. Bowel perforation was most frequent complication in 13(12.6%) pts, and intestinal resection was required in 16(15.5%) pts. No deaths occurred.

**Conclusions:** This study provides baseline information about the incidence and epidemiology of II in Costa Rican, prior to universal RV vaccination.

**Keywords:** Intestinal intussusception, children, Rotavirus, complications