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Anti-inflammatory proteins in meconium

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Levels of faecal proteins above cutoffs are of proven diagnostic value. Examples include proteins secreted by neutrophils in inflammatory focus in the intestine such: Calprotectin (Cal) from the cytoplasm and lactoferrin (LF) from specific granules. Another protein, ceruloplasmin (CP) is produced by hepatocytes and activated monocytes and macrophages. The aim of study was to evaluate the occurrence of three proteins in meconium, a specific type of faeces formed in the fetal intestine from 12 weeks gestation and excreted in the first 48 hours after birth. The protein concentrations were measured in meconium homogenates using commercial ELISA kits. Meconium from 20 neonates was assessed. The number of meconium portions n=81. The weight of a single meconium portion [g]: Range=0.18-18.93, mean±SD=5.52±4.02. The concentrations measured were as follows [µg/g]: Cal, range=33.8-1067.1, mean±SD=286.5±214.6; LF, range=1.7-511.4, mean±SD=45.1±78.5; CP, range=52.2±1076.0, mean±SD=310.6±228.9. A correlation was between LF-CP (r=0.46, p<0.0001) no correlation was found between Cal-LF (r=0.3, p=0.19) and Cal-CP (r=0.16, p=0.15). The weight of meconium filling the fetal intestine [g]: Range=4.72-36.95, mean±SD=18.29±8.64. The sum content of each protein in all meconium portions passed by a neonate was considered to equal the amount of the protein accumulated. The amounts were as follows [mg]: Cal, range=1.2-6.3, mean±SD=3.4±1.4; LF, range=0.021-2.7, mean±SD=0.76±0.75; CP, range=0.79-17.2, mean±SD=4.7±4.34. The occurrence of markers for intestinal inflammation from start of intrauterine life, at levels above cutoffs requires further studies. The proteins concentrations measured in this study were varied between meconium portions from one neonate. There were also significant differences in total accumulation of proteins between individual neonates.

Biography

Ewa Skarżyńska has completed her PhD from Medical University of Warsaw, Faculty of Pharmacy, Department of Biochemistry and Clinical Chemistry. She is responsible for teaching at graduate and postgraduate levels.

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