

CAESARIAN DELIVERY IMPAIR INNATE IMMUNITY OF MOTHER AND NEWBORN

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Introduction: An increased risk of infectious and allergic disease has been suggested for neonates born from caesarean delivery. The innate immunity play a crucial role in the host defence in neonatal age. The aim of this study is to evaluate the effects of delivery mode on innate immunity in newborn.

Methods: Prospective, multicentre study involving newborns with birth weight (BW) > 2000 g and gestational age (GA) > 37 weeks. Serum levels of alpha- (HNP 1-3) and beta-defensins (hBD-2) were adopted as a markers of innate immune response. At birth, blood samples from neonatal cord vessels and from their mother peripheral vein were collected, and HPN 1-3 and hBD-2 were measured by commercially available ELISA kits. Data regarding pregnancy and perinatal period were also recorded.

Results: Data from 66 newborns and their mother's were available. Levels of hBD2 were higher in newborn by spontaneous delivery (122.7 ± 4.6 pg/ml) than in those born by caesarian section (107.5 ± 5.5 pg/ml , $p=0.038$). In the absence of labor maternal HNP 1-3 resulted significantly lower (245.3 ± 25.7 ng/ml) than in the presence of labor (594.6 ± 36.3 ng/ml, $p=0.007$).

Conclusions: Caesarian delivery and absence of labor impair innate immunity in newborns. This may have important implications in the prevention of infectious and allergic disease early in the life.