

EVOLUTION OF IN-VITRO SENSITISATION TO COW'S MILK PROTEINS AMONG PRETERM INFANTS WITH NECROTISING ENTEROCOLITIS

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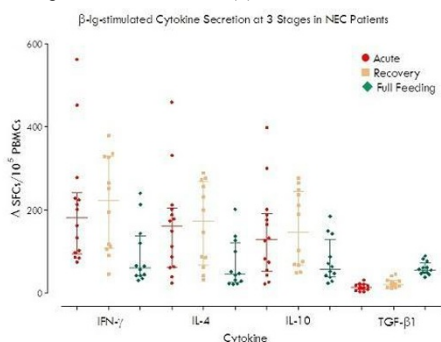
Background: Cow's milk protein (CMP) sensitisation in preterm (PT) infants with necrotising enterocolitis (NEC), and associated inflammatory and the regulatory components were described^(1,2). This study aimed to follow the evolution of this phenomenon in relation to the natural history of NEC.

Methods: ELISPOTs was used to detect numbers of peripheral blood mononuclear cells (PBMCs) secreting interferon- γ (IFN- γ), interleukin (IL)-4, IL-10, and transforming growth factor- β 1 (TGF- β 1), in response to stimulation with CMPs (casein and β -lactoglobulin [β -lg]) in the acute-stage NEC, compared to septic and healthy controls, then at recovery, and at full feeding in PT infants with NEC stage II and III on the modified Bell's score

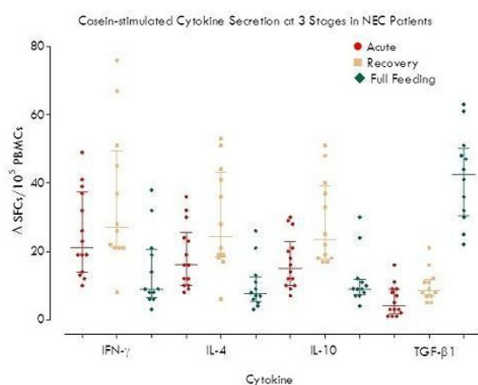
Results: During acute NEC, a pattern of higher levels of cytokine secretion to CMPs (for IFN- γ , IL-4 and IL-10) than in septic and healthy controls was noted, with a minimal TGF- β 1 response. Responses to β -lg and casein were significantly enhanced at recovery for IFN- γ ($p=0.01, 0.06$), IL-4 (0.02, 0.009) and IL-10 ($p=0.005, 0.002$) but less marked at full feeding to β -lg than to casein: IFN- γ ($p=0.03, 0.002$), IL-4 (0.03, 0.002) and IL-10 ($p=0.11, 0.007$). TGF- β 1 secretion was only slightly enhanced at presentation but progressively enhanced at recovery ($p=0.002, 0.01$) and at full feeding ($p=0.002, 0.002$).

1. Chuang et al (2009). CMP-specific T-helper type I/II cytokine responses in infants with necrotizing enterocolitis. *Pediatr Allergy Immunol*; 20 (1): 45-52.

2. Abdelhamid et al (2011). In vitro CMP-specific inflammatory and regulatory cytokine responses in preterm infants with necrotizing enterocolitis and sepsis. *Pediatr Res*; 69 (2):165-9.



[β -lg responses]



[Casein responses]