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Adaptive and inflammatory immune responses in patients infected with strains of *Vibrio parahaemolyticus*

Quadri F.¹, Alam MS.¹, Nishibuchi M.¹, Alam NH.¹, Christi J.¹, Kondo Seiichi² (近藤誠一), Sugiyama, J.¹, Bhuiyan, NA.¹, Mathan MM.¹, Sack DA.¹, Nair GB.¹

Antibody-secreting cell responses to thermostable direct hemolysin (TDH), lipopolysaccharide (LPS), and whole-cell bacteria were seen in patients with diarrhea caused by *Vibrio parahaemolyticus*. TDH- and LPS-specific responses were seen in serum samples, and immunoglobulin A antibody responses were observed in stool. Levels of C-reactive protein and nitric oxide metabolites increased in the systemic circulation at the onset of illness. During the acute stage, TNF- α and lactoferrin levels were high, whereas interleukin-1 β levels were high only in mucosal secretions. Duodenal and rectal biopsy specimens obtained at the onset of illness showed an acute inflammatory response. The lamina propria showed edema, congestion of blood vessels, and hemorrhage, with an increase in levels of polymorphonuclear neutrophils and macrophages. Strains belonging to different serotypes exhibited varying resistance to killing by serum; O8:K21 strain was most sensitive. Infection with *V. parahaemolyticus* results in B cell responses and an acute inflammatory response that is self-limiting.