

Serum cytokine signature that discriminates *Helicobacter pylori* positive and negative juvenile gastroduodenitis

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Abstract

© 2016 Khaiboullina, Abdulkhakov, Khalikova, Safina, Martynova, Davidyuk, Khuzin, Faizullina, Lombardi, Cherepnev and Rizvanov. Gastroduodenitis caused by *H. pylori*, often acquired in early childhood, is found in about 50% of the adult population. Although *H. pylori* infections can remain asymptomatic, its virulence factors usually trigger epithelial vacuolization and degeneration, loss of microvilli, disintegration of cytoplasm, and leukocyte accumulation. It is believed that leukocyte infiltration is driven by cytokines produced locally in infected tissue. However, so far little is known about changes in serum cytokines in juvenile patients infected with *H. pylori*. Serum cytokine profiles were analyzed in 62 juvenile patients diagnosed with gastroduodenitis using the Bio-Plex multiplex assay. *H. pylori* infection was confirmed in 32 patients, while 30 patients were *H. pylori*-free. Cytokines CXCL5 and CXCL6, potent neutrophil chemoattractants, were upregulated in all patients diagnosed with gastroduodenitis. Serum levels of IL8, a prototype neutrophil attractant, remained unchanged in subjects with gastroduodenitis relative to controls. Therefore, our data suggest that CXCL5 and CXCL6 play a role in directing neutrophil trafficking into inflamed gastroduodenal tissue. In addition, the CCL25/GM-CSF ratio differed significantly between *H. pylori*-positive and -negative juveniles. Further, study is needed to evaluate the role of CCL25 and GM-CSF in the pathogenesis of the different etiologies of gastroduodenitis.

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Keywords

Cytokines, Gastroduodenitis, *H. pylori*, Virulence factors