Bacillary-coccoid transformation activity of Helicobacter pylori (HP) in stomach mucosa

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Life cycle of bacterial cells of Helicobacter pylori (HP) can include the stages of their transformation from bacillary (spiral) forms into coccoid forms and back, from coccoid to bacillary ones. According to immunocytochemical studies of gastro-biopsy specimens of HP-associated gastritis, the populations of HP bacterial cells populations living in the gastric mucosa contain spiral (90-95%), coccoid (3-7%) and intermediate U-forms (1-3%). Always available in the gastric mucosa HP coccoid forms provide the passage of HP bacterium through the intestinal tract and its output into the environment with excrements. HP infection spreads and contaminates human gut through its coccoid forms. During the peptic ulcer exacerbation, the activity of the bacillary-coccoid transformation of HP increases. As a result, the number of coccoid forms of HP in the ulcer can reach 50%. The activity of bacillary-coccoid transformation of HP in the gastric mucosa has a seasonal biorhythm and coincides with the periods of seasonal peptic ulcer exacerbation. HP coccoid forms have resistance to drugs and are one of the reasons for the inefficiency of eradication courses. The activity of bacillary-coccoid transformation of HP should be taken into account for meaningful eradication therapy and for the prevention of Helicobacter pylori infection.

Biography

Viacheslav Kravtsov has been studying Helicobacter pylori for the past 15 years. He has authored more than 50 peer-reviewed reports. He has served on the Editorial Boards for the World Journal of Experimental Medicine and the Journal Gastrointestinal Disorders and Liver Function. He is a Member of the BIT Congress.

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