



Disorders of electrocolonogram spectrum in patients with chronic diarrhea and constipation

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Abstract

AIM: Few clinical applications of electrocolonogram (ECoG) as an index of motility have been reported. The aims were to observe the disorders of ECoG, main analyses of frequency spectrum (FS) in patients with chronic diarrhea and constipation and explore the possibility of ECoG as a means for identifying types of abnormal colonic motility.

METHODS: ECoGs of 110 patients with diseases of gastrointestinal tract (chronic gastritis, duodenitis and duodenal ulcer, chronic colitis and irritable bowel syndrome (IBS), 77 patients of other diseases (hyperthyroidism, myasthenia gravis) and 71 healthy adults were measured applying "The Detect analyzing System for Electric Activity of Gastrointestinal Tract". The electrodes were put on abdominal

surface in projections of gastric antrum, ascending/descending/sigmoid colon. The fasting (20 min) and feeding (40 min) ECoG were recorded continuously. The running frequency spectrum of ECoG was analyzed by Fast Fourier Transform.

RESULTS: (1) In patients with loose stool, the electric activities of colon were lower or tended to be lower than normal, which suggested low colonic tension and weak local movement. (2) In patients of diarrhea with IBS, the electric activities of colon were higher or tended to be higher than normal, which suggested hyperfunction of colon. (3) In constipation patients, propulsive activities of colon were inhibited, which was termed as asthenic colon. (4) In patients of constipation with IBS, the activities of colon were lower than normal. But abnormal frequency exist in descending and sigmoid colon; Which may be related to disturbance of outlet.

CONCLUSION: ECoG examination and its spectrum might be used as a valuable means for identifying types of abnormal colonic motility in patients with chronic diarrhea and constipation.

Key words: Electrocolonogram spectrum; Chronic diarrhea; Constipation

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