

Electrogastrography in patients with disordered gastric motility in diabetes and effect of cisapride

Lin Lin, Xiu-Zhen Lu, Zhi-Quan Zhao

Lin Lin, Xiu-Zhen Lu, Zhi-Quan Zhao, The First Affiliated Hospital of Nanjing Medical University, Nanjing 210029, Jiangsu Province, China

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Abstract

AIM: Diabetes mellitus (DM) is a clinical syndrome, which affects all systems of human body. Digestive symptoms, such as abdominal distention, nausea, constipation or diarrhea, are often seen in long term cases of DM, which is believed resulted from visceral neuropathy. Approximately, half of diabetic patients are found to have gastric dysrhythmias including bradygastria, tachygastria and arrhythmias. We investigate the effect of different dose of Cisapride (CIS) in 25 cases of DM by comparing the surface electrogastrograms (EGG) before and after the therapy for two weeks. The aim of this report is to study the gastric myoelectrical activity of diabetic patients.

METHODS: 25 patients had history of NIDDM from two months to three years. No upper digestive tract diseases was found by radiograph or gastroscopy in these patients. Hepatic and biliary disease were not seen by B mode ultrasound. 15 patients received

5 mg CIS three times daily and other 10 received 10 mg CIS three times daily for two weeks. For EGG analysis, four standard electrodes were connected to WCDF electrogastroenteric analyzer for subsequent data analysis, the dominant frequency (FP), pass zero frequency (FZ), center frequency (FC) and average peak (AP) were worked out, the statistical analysis was then performed using the student's paired t test.

RESULTS: Bradygastria, bradyarrhythmia and lower amplitude were seen in these patients before the treatment with CIS. After two weeks on CIS, FP did not change significantly ($P > 0.05$) in "5 mg group", while in "10 mg group" FP changed significantly ($P < 0.01$), which showed the patients with bradygastria developed normal EGG. The statistical analysis did not indicate the effect on AP.

CONCLUSION: Disordered gastric motor function in DM can lead to not only the symptoms of gastrointestinal tract but also the worse control of serum glucose. Such phenomenon is often seen in asymptomatic diabetics. CIS is a prokinetic agents for relief of symptoms, which is believed more effective than 15 mg of CIS daily. EGG can be used to investigate the effects of prokinetic agents on gastrointestinal motility and rhythm.

Key words: Electrogastrography; Gastric motility disorder; Cisapride

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