

Relationship between ^{99m}Tc -labeled gastric empty and electrogastrography in the patients with gastric dynamic

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Abstract

AIM: To probe relationship between delayed gastric empty and gastro electric activity and appraise the diagnostic value of electrogastrography (EGG) in the dynamic diseases of stomach.

METHODS: Subjects 6 healthy volunteers, 4 patients with functional dyspepsia (FD) and 11 patients with type 2 diabetic mellitus. All the subjects were fasted over 8 h. Solid gastric emptying test ^{99m}Tc -DIPA 500 (Ci was mixed with 100 g EGG and fried, after meal, the γ -ray prober was put toward the gastric area and developed for one minute everytime in the 15th, 30th, 45th, 60th, 90th and 120th respectively after meal and the results were analyzed by using computed programme for the gastric empty. EGG was recorded in the gastric corpus and antrum in fasting and the course of solid gastric emptying test for 30 min respectively, and Ap, Fz, Fc, Fp and the percentage of Fp < 2.4 cpm, 2.4-3.7 cpm and > 3.7 cpm were analyzed.

RESULTS: Statistical difference were demonstrated among

FD group, DM with peripheroneural lesions. But there were no significant differences between healthy volunteer group and DM group without peripheroneural lesions, and between FD group and DM with peripheroneural lesions. On the basis of above results, the subjects were divided into normal gastric emptying group (NGE) and delayed gastric emptying group (DGE). EGG analysis showed that no statistical differences existed in Ap, Fz and Fc preprandially between NGE and DGE; While there was the significant difference in frequency spectrum of the gastric antrum in the time of fasting and after meal between NGE and DGE. In NGE, Fp after meal in gastric antrum was mainly arranged from 2.4 cpm to 3.7 cpm, but in DGE, the percentage of Fp from 2.4 cpm to 3.7 cpm was obviously reduced after meal when it was compared with NGE.

CONCLUSION: On the basis of above findings, it was concluded that delayed gastric emptying in the patients with DM may be results of DM accompanied peripheroneural lesions; Tc gastric emptying test was a valuable method for detecting gastric dynamic diseases; The reduced percentage of Fp (range 2.4-3.7 cpm) or left migrated frequency spectrum of Fp may be valuable parameter for diagnosing delayed gastric emptying.

Key words: ^{99m}Tc -labeled gastric empty; Electrogastrography, gastric dynamic disease

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