

Gastric Emptying in Patients With Functional Dyspepsia and Patients With Migraine

TO THE EDITOR: I read the paper by Yu et al¹ entitled "Gastric emptying in migraine: a comparison with functional dyspepsia." The authors measured gastric emptying time in 27 patients with migraine, 32 patients with functional dyspepsia (FD) and 12 healthy controls in order to investigate whether delayed gastric emptying plays a pathogenic role in FD patients or migraine patients without any gastrointestinal symptoms during the interictal periods, and whether delayed gastric emptying is associated with specific dyspeptic symptoms in those patients.

FD is believed to be a heterogeneous disorder in which diverse pathophysiologic mechanisms are involved. Delayed gastric emptying has been considered to be one of the major pathophysiologic mechanisms in FD.^{2,3} A meta-analysis of 17 studies reported that delayed solid gastric emptying was present in about 40% of patients with FD.⁴ However, larger studies reported delayed gastric emptying in 20-30% of patients with FD.³ The study by Yu et al¹ revealed that the proportions of patients with mildly delayed and delayed gastric emptying were 24.1% and 58.6% in the FD group, respectively. The proportion of normal gastric emptying in the FD group was 17.3%. These proportions are very different from those reported in previous studies. The grading criteria of gastric emptying used in that study⁵ should be validated in the author's institution, because the methodology to measure gastric emptying including the type of meal used and a normal range of gastric emptying in asymptomatic healthy controls may be different. Indeed, mildly delayed and delayed gastric emptying were present in 25.0% and 33.3% of the healthy controls, suggesting the possibility that the grading criteria of gastric emptying were not appropriate. Regarding the association between gastric emptying parameters and dyspeptic symptoms in patients with FD, small studies have shown controversial results. Whereas, larger studies have shown the association of postprandial fullness and nausea with delayed gastric emptying.^{6,7} Because the sample size of the study by Yu et al¹ is small, it does not have any superiority over the previous studies. The authors

failed to find the association of delayed gastric emptying with any dyspeptic symptoms. This negative association might be attributed to the small sample size.

The authors recommended further study for the association of migraine with FD. However, they excluded those who had experienced gastrointestinal symptoms during the interictal period from the migraine group. Upper abdominal symptoms are reported to be more frequent in patients with migraine compared with healthy controls.⁸ Therefore, in order to investigate the association between migraine and FD, it seems to be more rational that migraine patients with upper abdominal symptoms are included in the study. The investigation of the gastric mechanism associated with nausea and vomiting occurring during ictal period is likely to be difficult to perform because gastric function should be measured during ictal period.

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Conflicts of interest: None.
