

## Bölüm 7

# GASTROPAREZİ BULANTı KUSMA İLİŞKİSİ

Yiğit TÜRK<sup>8</sup>

### GİRİŞ

Gastroprezi, mekanik bir obstrüksiyon olmaksızın mide içerisindeki gıdaların objektif olarak gecikmiş gastrik boşalma sendromudur ve başlıca semptomları bulantı, kusma, erken doyma, geğirme, şişkinlik ve/veya epigastrik ağrıdır (1). Gastrointestinal sistemin en sık iki nöromusküler hastalığından biridir (diğer ise fonksiyonel dispepsidir).

Sağlıklı bir gastrointestinal sistem motor fonksiyonu, mide ve barsaklardaki sempatik ve parasempatik sinir sistemlerinin, nöronların, pacemaker hücreler olan intersitisyal cajal hücrelerinin (ICC) ve barsaktaki düz kas hücrelerinin koordinasyonunu gerektiren karmaşık olaylar dizisidir. Bu süreçteki herhangi bir anormallik gastrik boşalmada gecikmeye (gastrik staz) neden olur (2).

### EPİDEMİYOLOJİ

Gastroparezi epidemiyolojisi iyi tanımlanmamıştır çünkü hastalar genellikle bulantı ve kusma için daha az spesifik ICD-10 kodları kullanılarak sınıflandırılmaktadır. Dikkatlice ve detaylı olarak gerçekleştirilen bir çalışma, Minnesota Olmsted County'de gözlemlenen gastroparezi prevalansının kadınlarda 100.000 de 37.8, erkeklerde ise 9.6 olduğunu bildirmiştir (3).

### ETYOLOJİ

Her ne kadar gastroparezi genellikle gecikmiş mide boşalması ile karakterize homojen bir hastalık olarak düşünülse de, patofizyolojik olarak gastroparezi, fundik tonusdaki anormallikler, antroduodenal diskoordinasyon, zayıf antral pompalama, gastrik disritmi ve anormal duodenal feedback ile karakterize heterojen bir

<sup>8</sup> Uzman Hekim, İzmir Çiğli Bölge Eğitim Hastanesi, Genel Cerrahi Kliniği, yigitturk87@gmail.com

Transdermal skopolamin, nörokinin reseptörü-1 antagonisti aprepitant ve sentetik kannabinoid dronabinol, gastroparezi tedavisi için kullanılmasına rağmen, bunların kullanımını destekleyen randomize çalışmalar yoktur.

## SONUÇ

Göründüğü üzere gastroparezi diabetes mellitus, virüsler, ilaçlar, nörolojik hastalıklar vb. birçok nedene bağlı olarak gelişebilmektedir. Bir hastaya gastroparezi teşhisini koymadan önce mutlaka organik patolojiler dışlanmalıdır. Bunun sebebi başta maligniteler olmak üzere birçok organik patolojinin gastroparezi semptomlarını taklit edebilmesidir. Bir başka önemli konu da tedavinin kişiye özgü olarak düzenlenmesidir. Gastroparezi tedavisi alta yatan nedene uygun olmalıdır. Yoksa dirençli ve tekrarlayan semptomlara sahip yaşam kalitesi düşük hastalar yaratmış oluruz.

## KAYNAKLAR

1. Camilleri M, Parkman HP, Shafi MA, et al. Clinical guideline: management of gastroparesis. Am J Gastroenterol 2013; 108:18.
2. Lacy BE, Parkman HP, Camilleri M. Chronic nausea and vomiting: evaluation and treatment. Am J Gastroenterol 2018; 113:647.
3. Jung HK, Choung RS, Locke GR, et al. The incidence, prevalence and outcomes of patients with gastroparesis in Olmsted County, Minnesota from 1996 to 2006. Gastroenterology. 2009; 136:1225–1233.
4. Navas CM, Patel NK, Lacy BE. Gastroparesis: Medical and Therapeutic Advances. Digestive Diseases and Sciences 2017; 62(9), 2231–2240.
5. Soykan I, Sivri B, Sarosiek I et al. Demography, clinical characteristics, psychological and abuse profiles, treatment, and long-term follow-up of patients with gastroparesis. Dig Dis Sci 1998; 43:2398.
6. Bytzer P, Talley NJ, Leemon M et al. Prevalence of gastrointestinal symptoms associated with diabetes mellitus: a population-based survey of 15,000 adults. Arch Intern Med 2001; 161:1989.
7. Maleki D, Locke GR 3rd, Camilleri M et al. Gastrointestinal tract symptoms among persons with diabetes mellitus in the community. Arch Intern Med 2000; 160:2808.
8. Choung RS, Locke GR 3rd, Schleck CD et al. Risk of gastroparesis in subjects with type 1 and 2 diabetes in the general population. Am J Gastroenterol 2012; 107:82.
9. Parkman HP, Yates K, Hasler WL et al. Similarities and differences between diabetic and idiopathic gastroparesis. Clin Gastroenterol Hepatol 2011; 9:1056.
10. Grover M, Farrugia G, Lurken MS et al. Cellular changes in diabetic and idiopathic gastroparesis. Gastroenterology 2011; 140:1575–85.
11. O'Grady G, Angeli TR, Du P et al. Abnormal initiation and conduction of slow wave activity in gastroparesis, defined by high-resolution electrical mapping. Gastroenterology 2012; 143:589–98
12. Gibbons SJ, Verhulst PJ, Bharucha A et al. Review article: carbon monoxide in gastrointestinal physiology and its potential in therapeutics. Aliment Pharmacol Ther 2013; 38:689–702.
13. Choi KM, Gibbons SJ, Nguyen TV et al. Heme oxygenase-1 protects interstitial cells of Cajal from oxidative stress and reverses diabetic gastroparesis. Gastroenterology 2008; 135:2055.

14. Choi KM, Kashyap PC, Dutta N et al. CD206-positive M2 macrophages that express heme oxygenase-1 protect against diabetic gastroparesis in mice. *Gastroenterology* 2010; 138:2399.
15. Gangula PR, Mukhopadhyay S, Ravella K et al. Tetrahydrobiopterin (BH4), a cofactor for nNOS, restores gastric emptying and nNOS expression in female diabetic rats. *Am J Physiol Gastrointest Liver Physiol* 2010; 298:G692.
16. Rayner CK, Horowitz M. Gastrointestinal motility and glycemic control in diabetes: the chicken and the egg revisited? *J Clin Invest* 2006; 116:299.
17. Schvarcz E, Palmér M, Aman J et al. Physiological hyperglycemia slows gastric emptying in normal subjects and patients with insulin-dependent diabetes mellitus. *Gastroenterology* 1997; 113:60.
18. Russo A, Stevens JE, Chen R et al. Insulin-induced hypoglycemia accelerates gastric emptying of solids and liquids in long-standing type 1 diabetes. *J Clin Endocrinol Metab* 2005; 90:4489.
19. Horowitz M, Harding PE, Maddox AF et al. Gastric and oesophageal emptying in patients with type 2 (non-insulin-dependent) diabetes mellitus. *Diabetologia* 1989; 32:151.
20. Koch, KL, & Calles-Escandón, J. Diabetic gastroparesis. *Gastroenterology Clinics*, 2015; 44(1), 39-57.
21. Thorn, A. R. Not just another case of nausea and vomiting: A review of postinfectious gastroparesis. *Journal of the American Academy of Nurse Practitioners*, 2010; 22(3), 125-133.
22. Vassallo M, Camilleri M, Caron BL et al. Gastrointestinal motor dysfunction in acquired selective cholinergic dysautonomia associated with infectious mononucleosis. *Gastroenterology* 1991; 100:252.
23. Lobrano A, Blanchard K, Abell TL et al. Postinfectious gastroparesis related to autonomic failure: a case report. *Neurogastroenterol Motil* 2006; 18:162.
24. Barkin, JA, Czul, F, Barkin, J et al. Gastric enterovirus infection: a possible causative etiology of gastroparesis. *Digestive diseases and sciences*, 2016; 61(8), 2344-2350.
25. Jeong ID, Camilleri M, Shin A et al. A randomised, placebo-controlled trial comparing the effects of tapentadol and oxycodone on gastrointestinal and colonic transit in healthy humans. *Aliment Pharmacol Ther* 2012; 35:1088.
26. Parkman HP, Hasler WL, Fisher RS. American Gastroenterological Association. American Gastroenterological Association technical review on the diagnosis and treatment of gastroparesis. *Gastroenterology* 2004; 127:1592.
27. Bouras EP, Talley NJ, Camilleri M et al. Effects of amitriptyline on gastric sensorimotor function and postprandial symptoms in healthy individuals: a randomized, double-blind, placebo-controlled trial. *Am J Gastroenterol* 2008; 103:2043.
28. Foxx-Orenstein A, Camilleri M, Stephens D et al. Effect of a somatostatin analogue on gastric motor and sensory functions in healthy humans. *Gut* 2003; 52:1555.
29. Samin KA, Alam I, Riaz S et al. Gastro-ileal stenosis and gastroparesis after a biliopancreatic diversion. *Obes Surg* 2006; 16:1243.
30. Salameh JR, Schmiege RE Jr, Runnels JM et al. Refractory gastroparesis after Roux-en-Y gastric bypass: surgical treatment with implantable pacemaker. *J Gastrointest Surg* 2007; 11:1669.
31. Masclee AA, Lamers CB. Effect of endoscopic sclerotherapy of esophageal varices on vagus nerve integrity. *J Hepatol* 1994; 21:724.
32. Radaelli F, Paggi S, Terreni N et al. Acute reversible gastroparesis and megaduodenum after botulinum toxin injection for achalasia. *Gastrointest Endosc* 2010; 71:1326.
33. Park SY, Camilleri M, Packer D et al. Upper gastrointestinal complications following ablation therapy for atrial fibrillation. *Neurogastroenterol Motil* 2017; 29.
34. Gustavsson S, Ilstrup DM, Morrison P et al. Roux-Y stasis syndrome after gastrectomy. *The American journal of surgery*, 1988; 155(3), 490-494.
35. Schaller BJ, Graf R, Jacobs AH. Pathophysiological changes of the gastrointestinal tract in ischemic stroke. *Am J Gastroenterol* 2006; 101:1655-65.

36. Quigley EM. Other forms of gastroparesis: postsurgical, Parkinson, other neurologic diseases, connective tissue disorders. *Gastroenterology Clinics*, 2015; 44(1), 69-81.
37. Dhamija R, Tan KM, Pittcock SJ, et al. Serologic profiles aiding the diagnosis of autoimmune gastrointestinal dysmotility. *Clin Gastroenterol Hepatol* 2008; 6:988.
38. Baig MA, Randhawa T, Majeed MB et al. Occult Non-small Cell Lung Cancer Presenting as Paraneoplastic Gastroparesis: A Case Report and Literature Review. *Cureus*. 2019;11(3): e4216.
39. Ziessman HA, Chander A, Clarke JO, et al. The added diagnostic value of liquid gastric emptying compared with solid emptying alone. *J Nucl Med* 2009; 50:726.
40. Tougas G, Eaker EY, Abell TL, et al. Assessment of gastric emptying using a low fat meal: establishment of international control values. *Am J Gastroenterol* 2000; 95:1456.
41. O'Grady G, Abell TL. Gastric arrhythmias in gastroparesis: low- and high-resolution mapping of gastric electrical activity. *Gastroenterol Clin North Am*. 2015 Mar;44(1):169-84.
42. O'Brien MD, Bruce BK, Camilleri M. The rumination syndrome: clinical features rather than manometric diagnosis. *Gastroenterology* 1995; 108:1024.
43. Wytiacz V, Homko C, Duffy F, et al. Foods provoking and alleviating symptoms in gastroparesis: patient experiences. *Dig Dis Sci* 2015; 60:1052.
44. Homko CJ, Duffy F, Friedenberg FK, et al. Effect of dietary fat and food consistency on gastroparesis symptoms in patients with gastroparesis. *Neurogastroenterol Motil* 2015; 27:501.
45. Bharucha AE, Camilleri M, Forstrom LA et al. Relationship between clinical features and gastric emptying disturbances in diabetes mellitus. *Clin Endocrinol (Oxf)* 2009; 70:415.
46. Sawhney MS, Prakash C, Lustman PJ et al. Tricyclic antidepressants for chronic vomiting in diabetic patients. *Dig Dis Sci* 2007; 52:418.
47. Shada A, Nielsen A, Marowski S, et al. Wisconsin's Enterra Therapy Experience: A multi-institutional review of gastric electrical stimulation for medically refractory gastroparesis. *Surgery* 2018; 164:760.