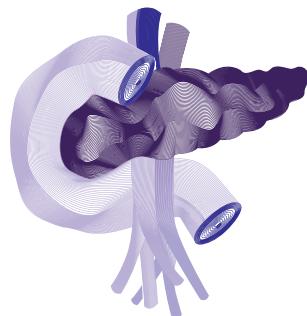


Bölüm 36

Pankreatik Yetmezlik Yönetimi



Mehmet İlker TURAN¹
Nedim AKGÜL²

Giriş

Pankreas karın içinde retroperitoneal alanda bulunur ve anatomik olarak üst gastrointestinal sistemin kavşak noktası olarak nitelendirilebilecek bir konumda yerleşim gösterir. Fonksiyonel olarak ise pankreas, salgıladığı insülin ve glukagon gibi hormonlar nedeniyle endokrin sistemin; amilaz, tripsin ve lipaz gibi enzimler nedeniyle de gastrointestinal sistemin önemli bir bileşenidir. Pankreasın nörohormonal uyarılar ile ürettiği enzimler, pankreatik kanallar aracılığı ile duodenuma sekrete edilir ve mideden gelen gıdanın sindiriminde önemli bir rol oynar. Bu yolağın herhangi bir basamağında aksaklık gelişmesi durumunda, pankreasın “ekzokrin salgıları” olarak da bilinen bu enzimler, mideden gelen içerik ile buluşamaz veya gıdaların sindiriminde yetersiz kalır; ki bu durum, ekzokrin pankreas yetmezliği (EPY) olarak tanımlanır.

Ekzokrin pankreas yetmezliğinin toplumdaki gerçek insidansı net olarak bilinmemektedir⁽¹⁾. Bununla birlikte, literatürde bu hastalığın belirtilen oranlardan daha sık görüldüğü konusunda görüşler de bildirilmiştir⁽²⁾. Hastalığın etyolojisinde birçok faktörün rol oynamasının yanısıra tanı ve tedavisinin yetersiz yapıldığına dair olan inanışın, literatürde belirtilen düşük prevalansın ana nedeni olduğu düşünülmektedir⁽³⁾.

¹ Uzm. Dr., Antalya Kepez Devlet Hastanesi, ilkerturan21@hotmail.com

² Uzm. Dr., Antalya Eğitim ve Araştırma Hastanesi, nedimakgul@yahoo.com

kenlerin uzaklaştırılmasını ve pankreatik enzim replasman tedavisini içermektedir. Enzim replasman tedavisine rağmen tedaviye yanıt alınamayan hastalarda PERT'e PPİ'nin eklendiği sekonder tedavi yöntemlerine geçilmelidir. Sekonder tedavilere de yanıt alınamaması durumunda mevcut tedavi safra asitleri ve probiyotikler ile kombine edilmelidir.

KAYNAKLAR

1. Capurso G, Traini M, Piciucchi M, et al. Exocrine pancreatic insufficiency: Prevalence, diagnosis, and management. *Clin. Exp. Gastroenterol.* 2019; 12, 129–139.
2. Dominguez-Muñoz JE. Diagnosis and treatment of pancreatic exocrine insufficiency. *Curr. Opin. Gastroenterol.* 2018; 34, 349–354.
3. Sikkens ECM, Cahen DL, van Eijck C, et al. Patients with exocrine insufficiency due to chronic pancreatitis are undertreated: a Dutch national survey. *Pancreatology* 2012; 12:71–3.
4. Duggan SN. Negotiating the complexities of exocrine and endocrine dysfunction in chronic pancreatitis. *Proc. Nutr. Soc.* 2017; 76, 484–494.
5. Layer P, Yamamoto H, Kalthoff L, et al. The different courses of early and late onset idiopathic and alcoholic chronic pancreatitis. *Gastroenterology* 1994; 107, 1481–1487.
6. Ghodeif AO, Azer SA. Pancreatic Insufficiency. 2021 Jan 28. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2021 Jan–.
7. Löhr JM, Dominguez-Munoz E, Rosendahl J, et al. United European gastroenterology evidence-based guidelines for the diagnosis and therapy of chronic pancreatitis (HaPanEU). *United Eur. Gastroenterol. J.* 2017; 5, 153–199.
8. Perbtani Y, Forsmark CE. Update on the diagnosis and management of exocrine pancreatic insufficiency. *F1000Research* 2019; 8, 1991.
9. Armstrong T, Walters E, Varshney S, et al. Deficiencies of micronutrients, altered bowel function, and quality of life during late follow-up after pancreaticoduodenectomy for malignancy. *Pancreatology* 2002; 2:528–34.
10. Forsmark C. Diagnosis and management of exocrine pancreatic insufficiency. *Curr. Treat. Options Gastroenterol.* 2018; 16, 306–315.
11. Yamabe A, Irisawa A, Shibukawa G, et al. Early diagnosis of chronic pancreatitis: understanding the factors associated with the development of chronic pancreatitis. *Fukushima J Med Sci* 2017; 63:1–7.
12. Roberts KJ, Bannister CA, Schrem H. Enzyme replacement improves survival among patients with pancreatic cancer: results of a population based study. *Pancreatology* 2019; 19:114–21.
13. Domínguez-Muñoz JE, Nieto-García L, López-Díaz J, et al. Impact of the treatment of pancreatic exocrine insufficiency on survival of patients with unresectable pancreatic cancer: a retrospective analysis. *BMC Cancer* 2018; 18:534.
14. D'Haese JG, Ceyhan GO, Demir IE, et al. Pancreatic enzyme replacement therapy in patients with exocrine pancreatic insufficiency due to chronic pancreatitis: a 1-year disease management study on symptom control and quality of life. *Pancreas* 2014; 43:834–41.

15. Afghani E, Sinha AK, Singh V. An overview of the diagnosis and management of nutrition in chronic pancreatitis. *Nutr. Clin. Pract.* 2014; 29: 295–311.
16. Pezzilli R, Andriulli A, Bassi C, et al. Exocrine pancreatic insufficiency in adults: A shared position statement of the Italian association for the study of the pancreas. *World J. Gastroenterol.* 2013; 19, 7930–7946.
17. Domínguez-Muñoz JE. Pancreatic exocrine insufficiency: diagnosis and treatment. *J Gastroenterol Hepatol* 2011; 26(Suppl 2):12–16.
18. Diéguez-Castillo C, Jiménez-Luna C, Prados J, et al. State of the Art in Exocrine Pancreatic Insufficiency. *Medicina (Kaunas)*. 2020 Oct 7;56(10):523.
19. Phillips ME, Hopper AD, Leeds JS, et al. Consensus for the management of pancreatic exocrine insufficiency: UK practical guidelines. *BMJ Open Gastroenterol.* 2021 Jun;8(1): e000643.
20. Pham A, Forsmark C. Chronic pancreatitis: review and update of etiology, risk factors, and management. *F1000Res.* 2018;7
21. Nikfarjam M, Wilson JS, Smith RC. Australasian Pancreatic Club Pancreatic Enzyme Replacement Therapy Guidelines Working Group. Diagnosis and management of pancreatic exocrine insufficiency. *Med J Aust.* 2017 Aug 21;207(4):161-165.
22. Lindkvist B. Diagnosis and treatment of pancreatic exocrine insufficiency. *World J Gastroenterol.* 2013 Nov 14;19(42):7258-66. doi: 10.3748/wjg. v19.i42.7258.
23. Dutta SK, Hlasko J. Dietary fiber in pancreatic disease: effect of high fiber diet on fat malabsorption in pancreatic insufficiency and in vitro study of the interaction of dietary fiber with pancreatic enzymes. *Am J Clin Nutr* 1985; 41:517–25.
24. Sikkens EC, Cahen DL, Koch AD, et al. The prevalence of fat-soluble vitamin deficiencies and a decreased bone mass in patients with chronic pancreatitis. *Pancreatology* 2013; 13: 238-242.
25. Gullo L, Barbara L, Labò G. Effect of cessation of alcohol use on the course of pancreatic dysfunction in alcoholic pancreatitis. *Gastroenterology* 1988; 95: 1063-1068.
26. Yadav D, Lowenfels AB. The epidemiology of pancreatitis and pancreatic cancer. *Gastroenterology* 2013; 144: 1252-1261.
27. Law R, Parsi M, Lopez R, et al. Cigarette smoking is independently associated with chronic pancreatitis. *Pancreatology* 2010; 10: 54-59.
28. DiMagno EP, Go VL, Summerskill WH. Relations between pancreatic enzyme outputs and malabsorption in severe pancreatic insufficiency. *N Engl J Med* 1973; 288: 813-815.
29. Dumasy V, Delhaye M, Cotton F, et al. Fat malabsorption screening in chronic pancreatitis. *Am J Gastroenterol* 2004; 99: 1350-1354.
30. Domínguez-Muñoz JE, Iglesias-García J. Oral pancreatic enzyme substitution therapy in chronic pancreatitis: is clinical response an appropriate marker for evaluation of therapeutic efficacy? *JOP* 2010; 11: 158-162.
31. Domínguez-Muñoz JE. Chronic pancreatitis and persistent steatorrhea: what is the correct dose of enzymes? *Clin Gastroenterol Hepatol.* 2011 Jul;9(7):541-6.
32. Toouli J, Biankin AV, Oliver MR, et al. Management of pancreatic exocrine insufficiency: Australasian Pancreatic Club recommendations. *Med J Aust* 2010; 193: 461-467.
33. Frulloni L, Falconi M, Gabbrioni A et al. Italian consensus guidelines for chronic pancreatitis. *Dig Liver Dis* 2010; 42 Suppl 6: S381-S406.

34. de-Madaria E, Abad-González A, Aparicio JR et al. The Spanish Pancreatic Club's recommendations for the diagnosis and treatment of chronic pancreatitis: part 2 (treatment). *Pancreatology* 2013; 13: 18-28.
35. Hoffmeister A, Mayerle J, Beglinger C et al. [S3-Consensus guidelines on definition, etiology, diagnosis and medical, endoscopic and surgical management of chronic pancreatitis German Society of Digestive and Metabolic Diseases (DGVS)]. *Z Gastroenterol* 2012; 50: 1176-1224.
36. Whitcomb DC, Lehman GA, Vasileva G, et al. Pancrelipase delayed-release capsules (CREON) for exocrine pancreatic insufficiency due to chronic pancreatitis or pancreatic surgery: A double-blind randomized trial. *Am J Gastroenterol* 2010; 105: 2276-2286.
37. Thorat V, Reddy N, Bhatia S, et al. Randomised clinical trial: the efficacy and safety of pancreatin enteric-coated minimicrospheres (Creon 40000 MMS) in patients with pancreatic exocrine insufficiency due to chronic pancreatitis--a double-blind, placebo- controlled study. *Aliment Pharmacol Ther* 2012; 36: 426-436.
38. Ramesh H, Reddy N, Bhatia S, et al. A 51-week, open-label clinical trial in India to assess the efficacy and safety of pancreatin 40000 enteric- coated minimicrospheres in patients with pancreatic exocrine insufficiency due to chronic pancreatitis. *Pancreatology* 2013; 13: 133-139.
39. Pezzilli R. Chronic pancreatitis: Malabsorption, intestinal ecology and intestinal inflammation. *World J. Gastroenterol.* 2009, 15, 1673–1676.
40. Akshintala VS, Talukdar R, Singh VK, et al. The Gut microbiome in pancreatic disease. *Clin. Gastroenterol. Hepatol.* 2019, 17, 290–295.
41. Hamada S, Masamune A, Nareshima T, et al. Differences in gut microbiota profiles between autoimmune pancreatitis and chronic pancreatitis. *Tohoku J. Exp. Med.* 2018, 244, 113–117.