

BÖLÜM 17

OBEZ VE AŞIRI KİLOLU HASTALARDA DİYABET YÖNETİMİ



Hüseyin SOYLU¹

GİRİŞ

Obezite ve aşırı kilo, insan sağlığının bozulmasına sebep olan, ciddi morbidite ve mortalite artışıyla sonuçlanan aşırı ve anormal yağ birikimi ile karakterize bir durumdur (1).

Dünya Sağlık Örgütü (WHO) verilerine göre; 1975'den beri obezite, erişkinlerde yaklaşık 3 kat artmıştır. 2016 yılında erişkinlerin % 39'u aşırı kilolu ve % 13'ü obez olup, aşırı kiloluların sayısı 1.9 milyarın üzerindedir ve obezlerin sayısı 650 milyona ulaşmıştır. Dünya çapında obezite sıklığındaki bu endişe verici artıştan maalesef çocuklar da erişkinler gibi etkilenmiştir. Beş ile 19 yaş aralığındaki bireyler arasında aşırı kilo ve obezite prevalansı 1975'de % 4 iken 2016'da % 18'in üzerine çıkmıştır (2).

Son yüzyılda çevresel ve toplumsal değişimler nedeniyle kilo alımının desteklenmesi obezite sorununa yol açmıştır. Yüksek kalorili diyet, yüksek yağlı yiyeceklerin tüketilmesi, yetersiz fizik aktivite ve yerleşik yaşam tarzına geçiş obezitenin oluşmasında ana faktörlerdir. Ayrıca obezitenin başta Tip 2 diyabet ve kardiyovasküler hastalıklar için risk faktörü olup önemli sağlık sorunlarına ve mortalite riskinde artışa sebep olduğu bilinmektedir (3).

Tip 2 diyabetlilerin büyük çoğunluğunun aşırı kilolu veya obez olması ve buna bağlı gelişebilecek komplikasyonlarda artan risk nedeniyle bu hastaların

¹ Uzm. Dr., Batman Eğitim Araştırma Hastanesi, Endokrinoloji ve Metabolizma Hastalıkları Kliniği, hsoyludr@yahoo.com



nüks görülebilmektedir. RYBG işleminden sonra ortalama remisyon süresinin 8.3 yıl olduğu gözlenmiştir (2,5).

Genç yaştakiler, diyabet ömrü uzun olmayanlar (<8 yıl), insülin kullanmayanlar ve glisemik kontrolü iyi olan hastalarda obezite cerrahisinin remisyon oranı daha yüksektir (5). Obezite cerrahisinin perioperatif mortalitesi minimal laparoskopik işlemlerin iyileştirilmesi ve multidisipliner sertifikalandırma prosedürlerinin etkisiyle % 0.1-0.5 oranında görülmektedir (44). Cerrahi sonrası makro ve mikrobesein eksiklikleri ve bunun yaratacağı komplikasyonlar, osteoporoz ve damping sendromu açısından hastaların iyi izlenmesi, mineral ve vitamin desteğinin sürdürülmesi önemlidir (45).

KAYNAKLAR

1. Blundell JE, Dulloo AG, Salvador J et al. Beyond BMI--phenotyping the obesities EASO SAB Working Group on BMI *Obes Facts* 2014;7(5):322-8. Epub 2014 Oct 23. doi.org/10.1159/000368783.
2. WHO. Obesity and overweight (17/04/2022 tarihinde <https://www.who.int/news-room/factsheets/detail/obesity-and-overweight> adresinden alınmıştır)
3. Yumuk V, Tsigos C, Fried M et al. Obesity Management Task Force of the European Association for the Study of Obesity: European guidelines for obesity management in adults. *Obes Facts* 2015;8:402-424. doi.org/10.1159/000442721
4. Prentice AM, Jebb SA, Beyond body mass index *Obes Rev* 2001 Aug;2(3):141-7. doi.org/10.1046/j.1467-789x.2001.00031.x
5. Obesity and Weight Management for the Prevention and Treatment of Type 2 Diabetes: Standards of Medical Care in Diabetes—2022 American Diabetes Association Professional Practice Committee *Diabetes Care* 2022;45(Supplement_1):S113–S124. doi.org/10.2337/dc22-S008
6. Weir CB, Jan A BMI Classification Percentile And Cut Off Points StatPearls [Internet]. Stat Pearls Publishing; 2022 Jan.
7. Whitlock G, Lewington S, Sherliker P, et al. Body-mass index and cause-specific mortality in 900,000 adults: collaborative analyses of 57 prospective studies. *Lancet* 2009; 373:1083. DOI:[https://doi.org/10.1016/S0140-6736\(09\)60318-4](https://doi.org/10.1016/S0140-6736(09)60318-4)
8. Field AE, Coakley EH, Must A, et al. Impact of overweight on the risk of developing common chronic diseases during a 10-year period. *Arch Intern Med* 2001; 161:1581. doi: 10.1001/archinte.161.13.1581
9. Frühbeck G, Toplak H, Woodward E et al. Executive Committee of the European Association for the Study of Obesity: Obesity: the gateway to ill health - an EASO position statement on a rising public health, clinical and scientific challenge in Europe. *Obes Facts* 2013;6:117-120. doi.org/10.1159/000350627
10. Tigue KM, Larson JC, Valoski A et al. Mortality and Cardiac and Vascular Outcomes in Extremely Obese Women. *JAMA* 2006;296(1):79-86. doi:10.1001/jama.296.1.79
11. Leitner DR, Frühbeck G, Yumuk V et al. Obesity and Type 2 Diabetes: Two Diseases with a Need for Combined Treatment Strategies - EASO Can Lead the Way *Obes Facts* 2017;10:483-492 doi.org/ 10.1159/000480525



12. 2. Classification and Diagnosis of Diabetes: Standards of Medical Care in Diabetes—2022 American Diabetes Association Professional Practice Committee *Diabetes Care* 2022;45(Supplement_1):S17–S38 doi.org/10.2337/dc22-S002
13. Williamson DF, Thompson TJ, Thun M et al. Intentional weight loss and mortality among overweight individuals with diabetes. *Diabetes Care* 2000;23:1499-1504. doi: 10.2337/diacare.23.10.1499
14. Wing RR, Bond DS, Gendrano IN 3rd, et al. Effect of intensive lifestyle intervention on sexual dysfunction in women with type 2 diabetes: results from an ancillary Look AHEAD study. *Diabetes Care* 2013; 36:2937. doi: 10.2337/dc13-0315
15. Look AHEAD Research Group, Pi-Sunyer X, Blackburn G, et al. Reduction in weight and cardiovascular disease risk factors in individuals with type 2 diabetes: one-year results of the look AHEAD trial. *Diabetes Care* 2007; 30:1374. doi: 10.2337/dc07-0048
16. Look AHEAD Research Group. Eight-year weight losses with an intensive lifestyle intervention: the Look AHEAD study. *Obesity (Silver Spring)* 2014;22:5–13. doi: 10.1002/oby.20662.
17. Esposito K, Maiorino MI, Ciotola M et al. Effects of a Mediterranean-style diet on the need for antihyperglycemic drug therapy in patients with newly diagnosed type 2 diabetes: a randomized trial. *Ann Intern Med* 2009;151:306-314. doi.org/10.7326/0003-4819-151-5-200909010-00004
18. Donnelly JE, Blair SN, Jakicic JM et al. Rankin JW; American College of Sports Medicine. American College of Sports Medicine Position Stand. Appropriate physical activity intervention strategies for weight loss and prevention of weight regain for adults. *Med Sci Sports Exerc* 2009;41:459–471 doi: 10.1249/MSS.0b013e3181949333.
19. Batsis JA, Apolzan JW, Bagley PJ, et al. A systematic review of dietary supplements and alternative therapies for weight loss. *Obesity (Silver Spring)* 2021;29:1102–1113 doi: 10.1002/oby.23110.
20. Cai X, Yang W, Gao X et al. Baseline body mass index and the efficacy of hypoglycemic treatment in type 2 diabetes: a meta-analysis. *PLoS One* 2016 Dec 9;11(12) doi: 10.1371/journal.pone.0166625
21. Domecq JP, Prutsky G, Leppin A, et al. Clinical review: drugs commonly associated with weight change: a systematic review and meta-analysis. *J Clin Endocrinol Metab* 2015;100:363–370. doi: 10.1210/jc.2014-3421.
22. Kahan S, Fujioka K. Obesity pharmacotherapy in patients with type 2 diabetes. *Diabetes Spectr* 2017;30:250–257. doi: 10.2337/ds17-0044
23. Zelniker TA, Wiviott SD, Raz I, et al. SGLT2 inhibitors for primary and secondary prevention of cardiovascular and renal outcomes in type 2 diabetes: a systematic review and meta-analysis of cardiovascular outcome trials. *Lancet* 2019; 393:31. doi: 10.1016/S0140-6736(18)32590-X
24. Buse JB, Wexler DJ, Tsapas A, et al. 2019 update to: management of hyperglycemia in type 2 diabetes, 2018. A consensus report by the American Diabetes Association (ADA) and the European Association for the Study of Diabetes (EASD). *Diabetes Care* 2020;43:487–493 doi.org/10.2337/dci18-0033
25. Domecq JP, Prutsky G, Leppin A, et al. Clinical review: Drugs commonly associated with weight change: a systematic review and meta-analysis. *J Clin Endocrinol Metab* 2015; 100:363. doi: 10.1210/jc.2014-3421
26. Van de Laar FA, Lucassen PLBJ, Akkermans RP, et al. Alpha-glucosidase inhibitors for type 2 diabetes mellitus. *Cochrane Database Syst Rev* 2005 Apr 18;2005(2) doi: 10.1002/14651858
27. Koliaki C, Doupis J. Incretin-based therapy: a powerful and promising weapon in the treatment of type 2 diabetes mellitus. *Diabetes Ther* 2011; 2:101. doi: 10.1007/s13300-011-0002-3
28. UPTODATE Glucagon-like peptide 1 receptor agonists for the treatment of type 2 diabetes



- mellitus Authors:Dungan K, DeSantis A, Section Editor: Nathan DM,Deputy Editor: Mulder JE, last updated: Jan 18, 2022. (18/04/2022 tarihinde <https://www.uptodate.com/contents/glucagon-like-peptide-1-receptor-agonists-for-the-treatment-of-type-2-diabetes-mellitus> adresinden alınmıştır)
29. Gallwitz B, Clinical Use of DPP-4 Inhibitors *Front Endocrinol (Lausanne)*. 2019; 10: 389. doi: 10.3389/fendo.2019.00389
 30. Buse JB, Weyer C, Maggs DG. Amylin replacement with Pramlintide in type 1 and type 2 diabetes: a physiological approach to overcome barriers with insulin therapy. *Clinical Diabetes* 2002; 20(3):137-144. doi.org/10.2337/diaclin.20.3.137
 31. Hollander P, Maggs DG, Ruggles JA, et al. Effect of pramlintide on weight in overweight and obese insulin-treated type 2 diabetes patients. *Obes Res* 2004; 12:661. doi: 10.1038/oby.2004.76.
 32. Aguilar-Bryan L, Nichols CG, Wechsler SW, et al. Cloning of the beta cell high-affinity sulfonylurea receptor: a regulator of insulin secretion. *Science* 1995; 268:423. doi: 10.1126/science.7716547
 33. Fuhendorff J, Rorsman P, Kofod H, et al. Stimulation of insulin release by repaglinide and glibenclamide involves both common and distinct processes. *Diabetes* 1998; 47:345. doi: 10.2337/diabetes.47.3.345
 34. Schopman JE, Simon AC, Hoefnagel SJ, et al. The incidence of mild and severe hypoglycaemia in patients with type 2 diabetes mellitus treated with sulfonylureas: a systematic review and meta-analysis. *Diabetes Metab Res Rev* 2014; 30:11.doi: 10.1002/dmrr.2470
 35. Hauner H. The mode of action of thiazolidinediones. *Diabetes Metab Res Rev* 2002; 18 Suppl 2:S10. doi: 10.1002/dmrr.249
 36. Boettcher E, Csako G, Pucino F, et al. Meta-analysis: pioglitazone improves liver histology and fibrosis in patients with non-alcoholic steatohepatitis. *Aliment Pharmacol Ther* 2012; 35:66. doi: 10.1111/j.1365-2036.2011.04912.x
 37. L Sjöström , A Rissanen, T Andersen et al. Randomised placebo-controlled trial of orlistat for weight loss and prevention of weight regain in obese patients. European Multicentre Orlistat Study. Group *Lancet* 1998 Jul 18;352(9123):167-72. doi: 10.1016/s0140-6736(97)11509-4.
 38. Davies M, Pieber TR, Hartoft-Nielsen ML, et al. Effect of Oral Semaglutide Compared With Placebo and Subcutaneous Semaglutide on Glycemic Control in Patients With Type 2 Diabetes: A Randomized Clinical Trial. *JAMA* 2017; 318:1460. doi: 10.1001/jama.2017.14752.
 39. Vilsbøll T, Bain SC, Leiter LA, et al. Semaglutide, reduction in glycated haemoglobin and the risk of diabetic retinopathy *Diabetes Obes Metab* 2018 Apr;20(4):889-897.doi: 10.1111/dom.13172
 40. Rubino F, Nathan DM, Eckel RH, et al.; Delegates of the 2nd Diabetes Surgery Summit. Metabolic surgery in the treatment algorithm for type 2 diabetes: a joint statement by international diabetes organizations. *Diabetes Care* 2016;39:861-877. doi: 10.2337/dc16-0236.
 41. Fisher DP, Johnson E, Haneuse S, et al. Association Between Bariatric Surgery and Macrovascular Disease Outcomes in Patients With Type 2 Diabetes and Severe Obesity. *JAMA* 2018; 320:1570. doi: 10.1001/jama.2018.14619
 42. O'Brien R, Johnson E, Haneuse S, et al. Microvascular Outcomes in Patients With Diabetes After Bariatric Surgery Versus Usual Care: A Matched Cohort Study. *Ann Intern Med* 2018; 169:300. doi: 10.7326/M17-2383
 43. Rubino F, Nathan DM, Eckel RH, et al. Metabolic Surgery in the Treatment Algorithm for Type 2 Diabetes: A Joint Statement by International Diabetes Organizations. *Diabetes Care* 2016; 39:861. doi: 10.2337/dc16-0236.



44. Flum DR, Belle SH, King WC, et al.; Longitudinal Assessment of Bariatric Surgery (LABS) Consortium. Perioperative safety in the longitudinal assessment of bariatric surgery. *N Engl J Med* 2009;361:445–454
45. Mechanick JI, Apovian C, Brethauer S, et al. Clinical practice guidelines for the perioperative nutrition, metabolic, and nonsurgical support of patients undergoing bariatric procedures – 2019 update: cosponsored by American Association of Clinical Endocrinologists/American College of Endocrinology, The Obesity Society, American Society for Metabolic & Bariatric Surgery, Obesity Medicine Association, and American Society of Anesthesiologists – executive summary. *Endocr Pract* 2019;25:1346–1359