

Konu 1

Subtotal Gastrektomi Sonrası Rekonstrüksiyon

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Giriş

Distal-subtotal gastrektomi sonrası rekonstrüksiyon için kullanılan birçok yöntem arasından hangisinin en iyisi olduğu konusunda henüz bir konsensüs mevcut değildir. Laparoskopik olarak en sık uygulanan gastrektomi çeşidi olan distal gastrektominin rekonstrüksiyonu konusunda doğru ekolünde halen Billroth I anastomoz tipi sıklıkla kullanılmakta, kıta Avrupası ve Amerika kıtasında ise Roux-n-Y anastomoz tipi tercih edilmektedir. Subtotal/totale yakın gastrektomi sonrası ise gastroduodenostominin teknik olarak uygulanabilirliğinin sorgulanması Billroth döneminde bitmiş ve tüm dünyada yaygın olarak gastrojejunostomi anastomozu tercih edilmeye başlanmıştır. Ancak halen anastomoz tipi ve tekniği konusunda kafa karışıklığına neden olabilecek birçok çalışma mevcuttur. Roux-n-Y anastomozun Billroth 2 tip anastomozu göre fonksiyonel olarak üstünlüğü son yıllarda tekrar tekrar kanıtlanırsa da uzun yıllardır bilinen bir gerçektir (1-3). 5419 hastayı içeren 24 çalışmanın metanalizinde Uncut Roux-n-Y/Roux-n-Y (URY/RY) ve Billroth I/II anastomoz tipleri karşılaştırıldığında URY/RY yapılan hastalarda safra ilişkili semptomların (alkalen reflü gastrit, reflü özefajit, dumping sendromu) daha az görüldüğü ve ayrıca Billroth I anastomoz yapılan hastalarda intraoperatif kan kaybının daha az

görüldüğü bildirilmiştir (4). Fonksiyonel açıdan Billroth I ve II arasında da anlamlı fark olmadığı geniş serilerde gösterilmiştir (5). Tüm teknik zorlukların ve peroperatif-postoperatif komplikasyonların dışında, göz önünde bulundurulması gereken önemli bir konu ise orta ve uzun dönem nutrisyonel sonuçlardır. 1300 hastanın nutrisyonel açıdan geriye dönük incelenmesini kapsayan geniş bir çalışmada en az kilo kaybı ve nutrisyonel gerileme Billroth I yapılan hastalarda görülmüşken, Roux-n-Y grubu ise buna yakın değerler göstermiştir. Nutrisyonel açıdan en kötü sonuçlar veren anastomoz tipinin ise Billroth II olduğu görülmüştür (6). Anastomozun retrokolik ve antekolik olarak yapılması konusunda ise retrokolik anastomozun gastroözefajial reflü ve roux-staz sendromu açısından daha güvenli olduğunu bildiren çalışmalar mevcut olsa dahi cerrahlar arasında uygulamada oturmuş bir konsensus halen bulunmamaktadır (7,8).

Günümüzde gastrektominin yetkin ellerde laparoskopik olarak güvenli bir şekilde yapılabilirliği tartışılmaz bir gerçek olmakla birlikte, halen tartışılan en önemli teknik zorluklar ise rezeksiyon sonrası rekonstrüksiyonla ilgilidir. Total gastrektomi sonrası rekonstrüksiyondaki teknik zorluklar bilinen bir gerçektir. Distal-subtotal gastrektomi sonrası rekonstrüksiyon ise teknik olarak daha kolay olmakla birlikte fizibilitesi ve

Kaynaklar

1. Virgilio E, Balducci G, Mercantini P et al. Reconstruction After Distal Gastrectomy for Gastric Cancer: Billroth 2 or Roux-En-Y Procedure? *Anticancer research*, (2017). 37(10), 5595-5602.
2. Ren Z, & Wang WX. Comparison of Billroth I, Billroth II, and Roux-en-Y Reconstruction After Totally Laparoscopic Distal Gastrectomy: A Randomized Controlled Study. *Advances in therapy*, (2019). 36(11), 2997-3006.
3. Bühner S, Ehrlein HJ, Thoma G et al. Canine motility and gastric emptying after subtotal gastrectomy. *Am J Surg* 1988;156:194-200.
4. Chen XJ, Chen YZ, Chen D et al. The Development and Future of Digestive Tract Reconstruction after Distal Gastrectomy: A Systemic Review and Meta-Analysis. *Journal of Cancer*, (2019). 10(4), 789.
5. Liu XF, Gao ZM, Wang RY et al. Comparison of Billroth I, Billroth II, and Roux-en-Y reconstructions after distal gastrectomy according to functional recovery: a meta-analysis. *European review for medical and pharmacological sciences*, (2019). 23(17), 7532-7542.
6. Kim YN, Choi YY, An JY et al. Comparison of Postoperative Nutritional Status after Distal Gastrectomy for Gastric Cancer Using Three Reconstructive Methods: a Multicenter Study of over 1300 Patients. *Journal of Gastrointestinal Surgery*, (2019). 1-7.
7. Hirata A, Fukaya M, Yokoyama Y et al. Retrocolic or antecolic Roux-en-Y reconstruction after distal gastrectomy: Which is more effective in the prevention of postoperative gastroesophageal reflux disease. *Digestive Surgery*. 2016;33(5):371-381.
8. Otsuka R, Natsume T, Maruyama T et al. Antecolic reconstruction is a predictor of the occurrence of roux stasis syndrome after distal gastrectomy. *Journal of Gastrointestinal Surgery*. 2015;19(5):821-824.
9. Kim MG, Kim KC, Kim BS et al. A totally laparoscopic distal gastrectomy can be an effective way of performing laparoscopic gastrectomy in obese patients (body mass index \geq 30). *World J Surg* 2011;35: 1327-32.
10. Zhang DT, Yan D, Jiang X et al. Laparoskopik destekli distal gastrektomide değiştirilmiş kesilmemiş roux-en-y anastomozu: maliyet dengesi ve minimal invazyon. *Trans Surg* 2018; 3: 1-5.
11. Ding W, Tan Y, Xue W et al. Comparison of the short-term outcomes between delta-shaped anastomosis and conventional Billroth I anastomosis after laparoscopic distal gastrectomy: a meta-analysis. *Medicine*, (2018). 97(9).
12. Bo Wang, Sang-Yong Son, Hojung Shin et al. Feasibility of Linear-Shaped Gastroduodenostomy during the Performance of Totally Robotic Distal Gastrectomy. *J Gastric Cancer*. 2019 Dec; 19(4): 438-450.
13. Kim YN, An JY, Choi YY et al. Short-Term Outcomes of Intracorporeal Delta-Shaped Gastroduodenostomy Versus Extracorporeal Gastroduodenostomy after Laparoscopic Distal Gastrectomy for Gastric Cancer. *Journal of gastric cancer*, (2019). 19(1), 111-120.
14. Wang B, Son SY, Shin H et al. Feasibility of Linear-Shaped Gastroduodenostomy during the Performance of Totally Robotic Distal Gastrectomy. *Journal of Gastric Cancer*, (2019). 19(4), 438-450.
15. Wang SY, Hong J, & Hao HK. A comparative study of delta-shaped and conventional Billroth I anastomosis after laparoscopic distal gastrectomy for gastric cancer. *Surgical endoscopy*, (2017). 31(8), 3191-3202.
16. Sumer F, Kayaalp C & Karagul S. Laparoscopic gastrectomy and transvaginal specimen extraction in a morbidly obese patient with gastric cancer. *Journal of gastric cancer*, (2016). 16(1), 51-53.
17. Lee SW, Kawai M, Tashiro K, Bouras G, Kawashima S et al. Laparoscopic distal gastrectomy with D2 lymphadenectomy followed by intracorporeal gastroduodenostomy for advanced gastric cancer: technical guide and tips. *Transl Gastroenterol Hepatol* 2017;2:84.
18. Omotosho P, Yurcisin B, Ceppa E et al. In vivo assessment of an absorbable and nonabsorbable knotless barbed suture for laparoscopic single-layer enterotomy closure: a clinical and biomechanical comparison against nonbarbed suture. *Journal of Laparoendoscopic & Advanced Surgical Techniques*, (2011). 21(10), 893-897.
19. Fujii H, Aotake T, Kawakami Y et al. Modified hemi-double-stapling technique combined with the temporal abdominal wall-lift method for performing Billroth I anastomosis after laparoscopically assisted distal gastrectomy. *Surgical endoscopy*, (2008). 22(12), 2748-2752.
20. Schneider C, Cobb W, Scott J et al. Rapid excess weight loss following laparoscopic gastric bypass leads to increased risk of internal hernia. *Surg Endosc* 2011; 25:1594-8.
21. Watanabe Y, Watanabe M, Suehara N et al. Billroth-I reconstruction using an overlap method in totally laparoscopic distal gastrectomy: propensity score matched cohort study of short-and long-term outcomes compared with Roux-en-Y reconstruction. *Surgical endoscopy*, (2019). 33(12), 3990-4002.
22. Kanaya S, Gomi T, Momoi H et al. Delta-shaped anastomosis in totally laparoscopic Billroth I gast-

- rectomy: new technique of intraabdominal gastro-duodenostomy. *J Am Coll Surg* 2002;195:284-7.
23. Huang C, Lin M, Chen Q et al. A modified delta-shaped gastroduodenostomy in totally laparoscopic distal gastrectomy for gastric cancer: a safe and feasible technique. *PLoS One* 2014;9:e102736.
 24. Uyama I, Ogiwara H, Takahara T et al. Laparoscopic Billroth I gastrectomy for gastric ulcer: technique and case report. *Surg Laparosc Endosc* 1995;5: 209-13.
 25. Tanaka C, Fujiwara M, Kanda M et al. Stapling an extracorporeal Billroth-I anastomosis by the complete double stapling technique after laparoscopy-assisted distal gastrectomy. *Asian journal of endoscopic surgery*, (2017). 10(2), 137-142.
 26. Ikeda T, Kawano H, Hisamatsu Y et al. Progression from laparoscopic-assisted to totally laparoscopic distal gastrectomy: comparison of circular stapler (i-DST) and linear stapler (BBT) for intracorporeal anastomosis. *Surg Endosc* 2013;27:325-32.
 27. Tanimura S, Higashino M, Fukunaga Y et al. Intracorporeal Billroth I reconstruction by triangulating stapling technique after laparoscopic distal gastrectomy for gastric cancer. *Surg Laparosc Endosc Percutan Tech* 2008; 18:54-8.
 28. Fukunaga T, Ishibashi Y, Oka S et al. Augmented rectangle technique for Billroth I anastomosis in totally laparoscopic distal gastrectomy for gastric cancer. *Surg Endosc* 2018; doi: 10.1007/s00464-018-6266-1.
 29. Komatsu S, Ichikawa D, Kubota T et al. Clinical outcomes and quality of life according to types of reconstruction following laparoscopy-assisted distal gastrectomy for gastric cancer. *Surg Laparosc Endosc Percutan Tech* 2015;25: 69-73.
 30. Kim CH, Song KY, Park CH et al. A comparison of outcomes of three reconstruction methods after laparoscopic distal gastrectomy. *Gastric Cancer* 2015;15:46-52.
 31. Kim JJ, Song KY, Chin HM et al. Totally laparoscopic gastrectomy with various types of intracorporeal anastomosis using laparoscopic linear staplers: preliminary experience. *Surg Endosc* 2008;22:436-42
 32. Kanaya S, Kawamura Y, Kawad H et al. Delta-shaped anastomosis in laparoscopic distal gastrectomy: analysis of 100 consecutive procedures of intracorporeal gastroduodenostomy. *Gastric Cancer*. 2011; 14 : 365-371. doi: 10.1007 / s10120-011-0054-0.
 33. Okabe H, Obama K, Tsunoda S et al. Advantage of completely laparoscopic gastrectomy with linear stapled reconstruction: a long-term follow-up study. *Ann Surg* 2014;259:109-16.
 34. Tokuhara T, Nakata E, Tenjo T et al. An option for delta-shaped gastroduodenostomy in totally laparoscopic distal gastrectomy for gastric cancer: A singlelayer suturing technique for the stapler entry hole using knotless barbed sutures combined with the application of additional knotted sutures. *Oncology letters*, (2018). 15(1), 229-234.
 35. Ohmura Y, Suzuki H, Kotani K et al. Intracorporeal hemi-hand-sewn technique for Billroth-I gastroduodenostomy after laparoscopic distal gastrectomy: comparative analysis with laparoscopy-assisted distal gastrectomy. *Mini-invasive Surg*, (2019). 3, 4.
 36. Byun C, Cui LH, Son SY et al. Linear-shaped gastroduodenostomy (LSGD): safe and feasible technique of intracorporeal Billroth I anastomosis. *Surg Endosc* 2016;30: 4505-14.
 37. Moriya H, Shimizu SI, Okano T et al. Experimental study of laparoscopic gastrectomy: intracorporeal Billroth I gastroduodenostomy. *Surgical laparoscopy & endoscopy*, (1997). 7(1), 32-37.
 38. Kinoshita T, Oshiro T, Ito K et al. Intracorporeal circular-stapled esophagojejunostomy using hand-sewn purse-string suture after laparoscopic total gastrectomy. *Surg Endosc* 2010;24: 2908-12.
 39. Omori T, Nakajima K, Nishida T et al. A simple technique for circular-stapled Billroth I reconstruction in laparoscopic gastrectomy. *Surg Endosc* 2005;19: 734-6.
 40. Takiguchi S, Sekimoto M, Miyake Y et al. Totally laparoscopic distal gastrectomy using the hand-sewn Billroth-I anastomotic technique: report of a case. *Surg Today* 2003;33: 371-4.
 41. Matsuo K, Shimura H, Tanaka S et al. Laparoscopic distal gastrectomy with intracorporeal hand-sewn Billroth-I anastomosis (ICHSA). *Surg Endosc* 2012;26: 2981-7.