

## Bölüm 7

# LAPAROSKOPİK HİSTEREKTOMİ

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### GİRİŞ

Histerektomi (uterusun cerrahi olarak çıkarılması) ilk kez 19. yüzyılda vajinal veya abdominal insizyonlar kullanılarak başarıyla gerçekleştirilmiştir (1,2). Teknolojideki yenilikler, 1989'da ilk laparoskopik histerektominin yapılmasına imkan vermiştir [ 3 ]. Amerika Birleşik Devletleri ulusal sürveyans verilerine göre laparoskopik yöntem, ayaktan hasta tedavi prosedürlerine doğru bir kayma ile histerektomide en yaygın yaklaşım haline gelmiştir [ 4 ].

Laparoskopik cerrahi, geleneksel laparoskopik aletlerle veya robotik ekipman ve aletler kullanılarak bilgisayar yardımı ile yapılabilir.

Bu bölümde laparoskopik histerektomi gözden geçirilecektir.

### ENDİKASYONLAR

Histerektomi için yaygın endikasyonlar şunlardır [5]:

- Uterin leiomyomlar
- Adenomyozis
- İdiyopatik anormal uterin kanama
- Endometriozis
- Uterin prolapsus

Histerektomi ayrıca uterus, over, fallop tüpü, periton ve serviks kanseri için de yapılabilir. Jinekolojik kanserli bazı hastalarda cerrahi evreleme ve tedavi laparoskopik olarak yapılabilir [ 6-9 ].

Laparoskopik histerektominin diğer cerrahi tekniklerle yapılan histerektomilere üstün olan bir endikasyonu yoktur.

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- Enstrümantasyon seçimi cerrah ve kuruma göre değişir. Birçok cerrah, vajina ve servikse yerleştirilen ve servikse uygun bir kap ile vajinal kaf sınırlarının görselleştirilmesine, boya enjeksiyonuna (kromopertubasyon) ve sonrasında pnömoperitonun korunmasına izin veren bir cihaz olan bir uterin manipülatör kullanır.
- Laparoskopik histerektomilerin yaklaşık yüzde 4'ünde laparotomiye geçildiği gözlenmiştir. Olası komplikasyonlar arasında kanama, üriner sistem yaralanması, vajinal kaf açılması ve barsak yaralanması yer alır. Özellikle üriner sistem yaralanması ve kaf açılma riskleri abdominal veya vajinal histerektomiye göre daha yüksektir.
- Laparoskopik histerektomi sonrası hastaneden aynı gün taburculuk perioperatif komplikasyonları veya yatarak gözlem ve bakım gerektiren komorbiditeleri olmayan kadınlar için güvenli bir seçenektir. postoperatif ilk gün boyunca bakımı yönetmek için evde yeterli desteğe sahip olmayan kadınlar için hastanede daha uzun süre kalmak makul bir seçenektir.
- Benign endikasyonlar için histerektomi geçiren kadınlar için robotik laparoskopi yerine konvansiyonel laparoskopi öneriyoruz ( Grade 2C ).

## **KAYNAKÇA**

1. Langenbeck CJM. Geschichte einer von mir glücklich verichteten extirpation der ganger gebarmutter. Biblioth Chir Ophth Hanover 1817; 1:557.
2. Burnham W. Extirpation of the uterus and ovaries for sarcomatous disease. Nelson's Am Lancet 1854; 8:147.
3. Reich H, DeCaprio J, McGlynn F. Laparoscopic hysterectomy. J Gynecol Surg 1989; 5:213.
4. Morgan DM, Kamdar NS, Swenson CW, et al. Nationwide trends in the utilization of and payments for hysterectomy in the United States among commercially insured women. Am J Obstet Gynecol 2018; 218:425.e1.
5. Merrill RM. Hysterectomy surveillance in the United States, 1997 through 2005. Med Sci Monit 2008; 14:CR24.
6. Walker JL, Piedmonte MR, Spirtos NM, et al. Laparoscopy compared with laparotomy for comprehensive surgical staging of uterine cancer: Gynecologic Oncology Group Study LAP2. J Clin Oncol 2009; 27:5331.
7. Walker JL, Piedmonte MR, Spirtos NM, et al. Recurrence and survival after random assignment to laparoscopy versus laparotomy for comprehensive surgical staging of uterine cancer: Gynecologic Oncology Group LAP2 Study. J Clin Oncol 2012; 30:695.
8. Weber S, McCann CK, Boruta DM, et al. Laparoscopic surgical staging of early ovarian cancer. Rev Obstet Gynecol 2011; 4:117.
9. Ramirez PT, Soliman PT, Schmeler KM, et al. Laparoscopic and robotic techniques for radical hysterectomy in patients with early-stage cervical cancer. Gynecol Oncol 2008; 110:S21.
10. Olive DL, Parker WH, Cooper JM, Levine RL. The AAGL classification system for laparoscopic hysterectomy. Classification committee of the American Association of Gynecologic Laparoscopists. J Am Assoc Gynecol Laparosc 2000; 7:9.
11. Nezhat C, Nezhat F, Admon D, Nezhat AA. Proposed classification of hysterectomies involving laparoscopy. J Am Assoc Gynecol Laparosc 1995; 2:427.
12. Richardson RE, Bournas N, Magos AL. Is laparoscopic hysterectomy a waste of time? Lancet 1995; 345:36.

13. Desai VB, Guo XM, Fan L, et al. Inpatient Laparoscopic Hysterectomy in the United States: Trends and Factors Associated With Approach Selection. *J Minim Invasive Gynecol* 2017; 24:151.
14. Crum CP, Drapkin R, Kindelberger D, et al. Lessons from BRCA: the tubal fimbria emerges as an origin for pelvic serous cancer. *Clin Med Res* 2007; 5:35.
15. Kindelberger DW, Lee Y, Miron A, et al. Intraepithelial carcinoma of the fimbria and pelvic serous carcinoma: Evidence for a causal relationship. *Am J Surg Pathol* 2007; 31:161.
16. Przybycin CG, Kurman RJ, Ronnett BM, et al. Are all pelvic (nonuterine) serous carcinomas of tubal origin? *Am J Surg Pathol* 2010; 34:1407.
17. Chopin N, Malaret JM, Lafay-Pillet MC, et al. Total laparoscopic hysterectomy for benign uterine pathologies: obesity does not increase the risk of complications. *Hum Reprod* 2009; 24:3057.
18. McMahan MD, Scott DM, Saks E, et al. Impact of obesity on outcomes of hysterectomy. *J Minim Invasive Gynecol* 2014; 21:259.
19. Camanni M, Bonino L, Delpiano EM, et al. Laparoscopy and body mass index: feasibility and outcome in obese patients treated for gynecologic diseases. *J Minim Invasive Gynecol* 2010; 17:576.
20. Driessen SR, Sandberg EM, la Chapelle CF, et al. Case-Mix Variables and Predictors for Outcomes of Laparoscopic Hysterectomy: A Systematic Review. *J Minim Invasive Gynecol* 2016; 23:317.
21. Sprung J, Whalley DG, Falcone T, et al. The impact of morbid obesity, pneumoperitoneum, and posture on respiratory system mechanics and oxygenation during laparoscopy. *Anesth Analg* 2002; 94:1345.
22. Scheib SA, Tanner E 3rd, Green IC, Fader AN. Laparoscopy in the morbidly obese: physiologic considerations and surgical techniques to optimize success. *J Minim Invasive Gynecol* 2014; 21:182.
23. Hurd WW, Bude RO, DeLancey JO, Pearl ML. The relationship of the umbilicus to the aortic bifurcation: implications for laparoscopic technique. *Obstet Gynecol* 1992; 80:48.
24. Hurd WH, Bude RO, DeLancey JO, et al. Abdominal wall characterization with magnetic resonance imaging and computed tomography. The effect of obesity on the laparoscopic approach. *J Reprod Med* 1991; 36:473.
25. Ballesta López C, Cid JA, Poves I, et al. Laparoscopic surgery in the elderly patient. *Surg Endosc* 2003; 17:333.
26. Siedhoff MT, Clark LH, Hobbs KA, et al. Mechanical bowel preparation before laparoscopic hysterectomy: a randomized controlled trial. *Obstet Gynecol* 2014; 123:562.
27. Cohen SL, Einarsson JI. The role of mechanical bowel preparation in gynecologic laparoscopy. *Rev Obstet Gynecol* 2011; 4:28.
28. Whiteside JL, Barber MD, Walters MD, Falcone T. Anatomy of ilioinguinal and iliohypogastric nerves in relation to trocar placement and low transverse incisions. *Am J Obstet Gynecol* 2003; 189:1574.
29. Einarsson JI, Suzuki Y. Total laparoscopic hysterectomy: 10 steps toward a successful procedure. *Rev Obstet Gynecol* 2009; 2:57.
30. Ghomi A, Hantes J, Lotze EC. Incidence of cyclical bleeding after laparoscopic supracervical hysterectomy. *J Minim Invasive Gynecol* 2005; 12:201.
31. Siedhoff MT, Cohen SL. Tissue Extraction Techniques for Leiomyomas and Uteri During Minimally Invasive Surgery. *Obstet Gynecol* 2017; 130:1251.
32. Tulandi T, Einarsson JI. The use of barbed suture for laparoscopic hysterectomy and myomectomy: a systematic review and meta-analysis. *J Minim Invasive Gynecol* 2014; 21:210.
33. López CC, Ríos JFL, González Y, et al. Barbed Suture versus Conventional Suture for Vaginal Cuff Closure in Total Laparoscopic Hysterectomy: Randomized Controlled Clinical Trial. *J Minim Invasive Gynecol* 2019; 26:1104.
34. Tsafirir Z, Palmer M, Dahلمان M, et al. Long-term outcomes for different vaginal cuff closure techniques in robotic-assisted laparoscopic hysterectomy: A randomized controlled trial. *Eur J Obstet Gynecol Reprod Biol* 2017; 210:7.

35. Einarsson JI, Cohen SL, Gobern JM, et al. Barbed versus standard suture: a randomized trial for laparoscopic vaginal cuff closure. *J Minim Invasive Gynecol* 2013; 20:492.
36. Blikkendaal MD, Twijnstra AR, Pacquee SC, et al. Vaginal cuff dehiscence in laparoscopic hysterectomy: influence of various suturing methods of the vaginal vault. *Gynecol Surg* 2012; 9:393.
37. Uccella S, Ceccaroni M, Cromi A, et al. Vaginal cuff dehiscence in a series of 12,398 hysterectomies: effect of different types of colpotomy and vaginal closure. *Obstet Gynecol* 2012; 120:516.
38. Uccella S, Malzoni M, Cromi A, et al. Laparoscopic vs transvaginal cuff closure after total laparoscopic hysterectomy: a randomized trial by the Italian Society of Gynecologic Endoscopy. *Am J Obstet Gynecol* 2018; 218:500.e1.
39. Chiong E, Hegarty PK, Davis JW, et al. Port-site hernias occurring after the use of bladeless radially expanding trocars. *Urology* 2010; 75:574.
40. Phelps P, Cakmakkaya OS, Apfel CC, Radke OC. A simple clinical maneuver to reduce laparoscopy-induced shoulder pain: a randomized controlled trial. *Obstet Gynecol* 2008; 111:1155.
41. Pepin KJ, Cook EF, Cohen SL. Risk of complication at the time of laparoscopic hysterectomy: a prediction model built from the National Surgical Quality Improvement Program database. *Am J Obstet Gynecol* 2020; 223:555.e1.
42. Catanzarite T, Saha S, Pilecki MA, et al. Longer Operative Time During Benign Laparoscopic and Robotic Hysterectomy Is Associated With Increased 30-Day Perioperative Complications. *J Minim Invasive Gynecol* 2015; 22:1049.
43. Aarts JW, Nieboer TE, Johnson N, et al. Surgical approach to hysterectomy for benign gynaecological disease. *Cochrane Database Syst Rev* 2015; :CD003677.
44. Lim CS, Mowers EL, Mahnert N, et al. Risk Factors and Outcomes for Conversion to Laparotomy of Laparoscopic Hysterectomy in Benign Gynecology. *Obstet Gynecol* 2016; 128:1295.
45. Wong JMK, Bortoletto P, Tolentino J, et al. Urinary Tract Injury in Gynecologic Laparoscopy for Benign Indication: A Systematic Review. *Obstet Gynecol* 2018; 131:100.
46. Nezhat C, Kennedy Burns M, Wood M, et al. Vaginal Cuff Dehiscence and Evisceration: A Review. *Obstet Gynecol* 2018; 132:972.
47. Hur HC, Donnellan N, Mansuria S, et al. Vaginal cuff dehiscence after different modes of hysterectomy. *Obstet Gynecol* 2011; 118:794.
48. Llarena NC, Shah AB, Milad MP. Bowel injury in gynecologic laparoscopy: a systematic review. *Obstet Gynecol* 2015; 125:1407.
49. Ibeanu OA, Chesson RR, Echols KT, et al. Urinary tract injury during hysterectomy based on universal cystoscopy. *Obstet Gynecol* 2009; 113:6.
50. AAGL Advancing Minimally Invasive Gynecology Worldwide. AAGL Practice Report: Practice guidelines for intraoperative cystoscopy in laparoscopic hysterectomy. *J Minim Invasive Gynecol* 2012; 19:407.
51. Taylor RH. Outpatient Laparoscopic Hysterectomy with Discharge in 4 to 6 Hours. *J Am Assoc Gynecol Laparosc* 1994; 1:S35.
52. Thiel J, Gamelin A. Outpatient total laparoscopic hysterectomy. *J Am Assoc Gynecol Laparosc* 2003; 10:481.
53. Morrison JE Jr, Jacobs VR. Outpatient laparoscopic hysterectomy in a rural ambulatory surgery center. *J Am Assoc Gynecol Laparosc* 2004; 11:359.
54. Lieng M, Istre O, Langebrekke A, et al. Outpatient laparoscopic supracervical hysterectomy with assistance of the lap loop. *J Minim Invasive Gynecol* 2005; 12:290.
55. Khavanin N, Mlodinow A, Milad MP, et al. Comparison of perioperative outcomes in outpatient and inpatient laparoscopic hysterectomy. *J Minim Invasive Gynecol* 2013; 20:604.
56. Schiavone MB, Herzog TJ, Ananth CV, et al. Feasibility and economic impact of same-day discharge for women who undergo laparoscopic hysterectomy. *Am J Obstet Gynecol* 2012; 207:382.e1.
57. Kistic-Trope J, Qvigstad E, Ballard K. A randomized trial of day-case vs inpatient laparoscopic supracervical hysterectomy. *Am J Obstet Gynecol* 2011; 204:307.e1.
58. Beste TM, Nelson KH, Daucher JA. Total laparoscopic hysterectomy utilizing a robotic surgical system. *JLS* 2005; 9:13.

59. Advincula AP, Reynolds RK. The use of robot-assisted laparoscopic hysterectomy in the patient with a scarred or obliterated anterior cul-de-sac. *JLS* 2005; 9:287.
60. Winer WK, Lyons TL. Suggested set-up and layout of instruments and equipment for advanced operative laparoscopy. *J Am Assoc Gynecol Laparosc* 1995; 2:231.
61. Kho RM, Hilger WS, Hentz JG, et al. Robotic hysterectomy: technique and initial outcomes. *Am J Obstet Gynecol* 2007; 197:113.e1.
62. Reynolds RK, Advincula AP. Robot-assisted laparoscopic hysterectomy: technique and initial experience. *Am J Surg* 2006; 191:555.
63. Payne TN, Dauterive FR. A comparison of total laparoscopic hysterectomy to robotically assisted hysterectomy: surgical outcomes in a community practice. *J Minim Invasive Gynecol* 2008; 15:286.
64. Sarlos D, Kots L, Stevanovic N, Schaer G. Robotic hysterectomy versus conventional laparoscopic hysterectomy: outcome and cost analyses of a matched case-control study. *Eur J Obstet Gynecol Reprod Biol* 2010; 150:92.
65. Pasic RP, Rizzo JA, Fang H, et al. Comparing robot-assisted with conventional laparoscopic hysterectomy: impact on cost and clinical outcomes. *J Minim Invasive Gynecol* 2010; 17:730.
66. Albright BB, Witte T, Tofte AN, et al. Robotic Versus Laparoscopic Hysterectomy for Benign Disease: A Systematic Review and Meta-Analysis of Randomized Trials. *J Minim Invasive Gynecol* 2016; 23:18.
67. Khorgami Z, Li WT, Jackson TN, et al. The cost of robotics: an analysis of the added costs of robotic-assisted versus laparoscopic surgery using the National Inpatient Sample. *Surg Endosc* 2019; 33:2217.
68. [http://www.acog.org/About\\_ACOG/News\\_Room/News\\_Releases/2013/Statement\\_on\\_Robotic\\_Surgery](http://www.acog.org/About_ACOG/News_Room/News_Releases/2013/Statement_on_Robotic_Surgery) (Accessed on March 25, 2013).
69. AAGL Advancing Minimally Invasive Gynecology Worldwide. AAGL position statement: Robotic-assisted laparoscopic surgery in benign gynecology. *J Minim Invasive Gynecol* 2013; 20:2.
70. Nam EJ, Kim SW, Lee M, et al. Robotic single-port transumbilical total hysterectomy: a pilot study. *J Gynecol Oncol* 2011; 22:120.
71. Yim GW, Jung YW, Paek J, et al. Transumbilical single-port access versus conventional total laparoscopic hysterectomy: surgical outcomes. *Am J Obstet Gynecol* 2010; 203:26.e1.
72. Bush AJ, Morris SN, Millham FH, Isaacson KB. Women's preferences for minimally invasive incisions. *J Minim Invasive Gynecol* 2011; 18:640.
73. Jung YW, Lee M, Yim GW, et al. A randomized prospective study of single-port and four-port approaches for hysterectomy in terms of postoperative pain. *Surg Endosc* 2011; 25:2462.
74. Escobar PF, Starks D, Fader AN, et al. Laparoendoscopic single-site and natural orifice surgery in gynecology. *Fertil Steril* 2010; 94:2497.
75. Einarsson JI, Cohen SL, Puntambekar S. Orifice-assisted small-incision surgery: case series in benign and oncologic gynecology. *J Minim Invasive Gynecol* 2012; 19:365.
76. Pelosi MA, Pelosi MA 3rd. Hand-assisted laparoscopy for complex hysterectomy. *J Am Assoc Gynecol Laparosc* 1999; 6:183.
77. Pelosi MA, Pelosi MA 3rd, Eim J. Hand-assisted laparoscopy for megamyomectomy. A case report. *J Reprod Med* 2000; 45:519.
78. Brotherton J, McCarus S, Redan J, et al. Hand-assist laparoscopic surgery for the gynecologic surgeon. *JLS* 2009; 13:484.
79. Tusheva OA, Cohen SL, Einarsson JI. Hand-assisted approach to laparoscopic myomectomy and hysterectomy. *J Minim Invasive Gynecol* 2013; 20:234.
80. Loungnarath R, Fleshman JW. Hand-assisted laparoscopic colectomy techniques. *Semin Laparosc Surg* 2003; 10:219.
81. Stifelman MD, Sosa RE, Shichman SJ. Hand-assisted laparoscopy in urology. *Rev Urol* 2001; 3:63.