

1 Supplement 1. Search strategies.

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3 **Ovid MEDLINE**

4 1. UTERINE CERVICAL NEOPLASMS/

5 2. ((cervical or cervix) ADJ3 (adenocarcinoma* or carcinoma* or cancer or neoplas* or tumor* or tumour*)).ti,ab

6 3. OR/1,2

7 4. Exp HYSTERECTOMY/

8 5. (hysterectomy*).ti,ab

9 6. OR/4,5

10 7. EXP MINIMALLY INVASIVE SURGICAL PROCEDURES/

11 8. LAPAROSCOPY/

12 9. EXP ROBOTIC SURGICAL PROCEDURES/

13 10. (("minimally invasive" or laparoscop* or robot*) adj2 (hysterectomy* or surg*)).ti,ab.

14 11. OR/7-10

15 12. ((Open or abdominal) adj2 hysterectom*).ti,ab.

16 13. AND/11,12

17 14. "NEOPLASM RECURRENCE, LOCAL"/

18 15. EXP TREATMENT OUTCOME/

19 16. (recurren* or relapse or recidiv*).ti,ab.

20 17. PERITONEAL NEOPLASMS/

21 18. (carcinomatosis or ((periton*) ADJ3 (cancer or carcinoma* or carcinosis or disease or fluid or implant* or
22 "surface malignanc*" or tumor* or tumour*))).ti,ab

23 19. ASCITES/

24 20. (ascites or hydroperitoneum).ti,ab.

25 21. ("port site" ADJ2 metastas*).ti,ab.

26 22. OR/14-21

27 23. AND/3,6,13,22

28 24. Limit 23 to english

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30 **Ovid Embase**

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32 1. Exp UTERINE CERVIX CANCER/

33 2. ((cervical or cervix) ADJ3 (adenocarcinoma* or carcinoma* or cancer or neoplas* or tumor* or tumour*)).ti,ab

34 3. OR/1,2

35 4. Exp HYSTERECTOMY/

36 5. (hysterectom*).ti,ab

37 6. OR/4,5

38 7. EXP MINIMALLY INVASIVE PROCEDURE/

39 8. LAPAROSCOPY/

40 9. LAPAROSCOPIC SURGERY/

41 10. EXP ROBOT ASSISTED SURGERY/

42 11. (("minimally invasive" or laparoscop* or robot*) adj2 (hysterectomy* or surg*)).ti,ab.

43 12. OR/7-11

44 13. OPEN SURGERY/

45 14. ((Open or abdominal) adj2 hysterectom*).ti,ab.

46 15. OR/13,14

47 16. AND/12,15

48 17. CANCER RECURRENCE/

49 18. CANCER SURVIVAL/

50 19. DISEASE FREE SURVIVAL/

51 20. TREATMENT OUTCOME/

52 21. (recurren* or relapse or recidiv*).ti,ab.

53 22. Exp PERITONEUM TUMOR/

54 23. (carcinomatosis or ((periton*) ADJ3 (cancer or carcinoma* or carcinosis or disease or fluid or implant* or

55 "surface malignanc*" or tumor* or tumour*))).ti,ab

56 24. Exp ASCITES/

57 25. (ascites or hydroperitoneum).ti,ab.

58 26. PORT SITE METASTASES/

- 59 27. ("port site" ADJ2 metastas*).ti,ab.
60 28. OR/17-27
61 29. AND/3,6,16,28
62 30. Limit 29 to english
63 31. 30 not (case report/ or "case report".ti.)

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Cochrane

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1. UTERINE CERVICAL NEOPLASMS/
2. ((cervical or cervix) NEAR/3 (adenocarcinoma* or carcinoma* or cancer or neoplas* or tumor* or tumour*)):ti,ab,kw
3. #1 OR #2
4. Exp HYSTERECTOMY/
5. (hysterectom*):ti,ab,kw
6. #4 OR #5
7. EXP MINIMALLY INVASIVE SURGICAL PROCEDURES/
8. LAPAROSCOPY/
9. EXP ROBOTIC SURGICAL PROCEDURES/
10. (("minimally invasive" or laparoscop* or robot*) NEAR/2 (hysterectomy* or surg*)):ti,ab,kw
11. #7 OR #8 OR #9 OR #10
12. ((Open or abdominal) NEAR/2 hysterectom*):ti,ab,kw
13. #11 AND #12
14. "NEOPLASM RECURRENCE, LOCAL"/
15. EXP TREATMENT OUTCOME/
16. (recurren* or relapse or recidiv*):ti,ab,kw
17. PERITONEAL NEOPLASMS/
18. (carcinomatosis or ((periton*) NEAR/3 (cancer or carcinoma* or carcinosis or disease or fluid or implant* or "surface malignanc*" or tumor* or tumour*)):ti,ab,kw
19. ASCITES/

88 20. (ascites or hydroperitoneum) :ti,ab,kw
89 21. ("port site" NEAR/3 metastas*):ti,ab,kw
90 22. #14 OR #15 OR #16 OR #17 OR #18 OR #19 OR #20 OR #21
91 23. #3 AND #6 AND #13 AND #22

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93 **Clinical Trials**

94 Cervical Cancer AND (minimally invasive surgery OR laparoscopy OR robot*)

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96 **Scopus**

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98 (TITLE-ABS-KEY ((cervical OR cervix) AND (adenocarcinoma* OR carcinoma* OR cancer OR neoplas* OR
99 tumor* OR tumour*)) AND TITLE-ABS-KEY (hysterectom*) AND TITLE-ABS-KEY (("minimally invasive" OR
100 laparoscop* OR robot*) AND (hysterectom* OR surg*)) AND TITLE-ABS-KEY ((open OR abdominal) AND
101 hysterectom*) AND TITLE-ABS-KEY (#1 AND #2 AND #3 AND #4))

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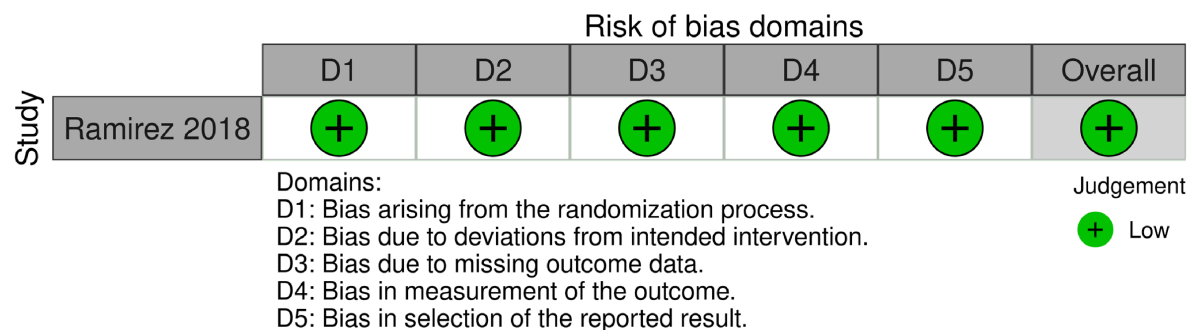
110 Supplement 2. Newcastle-Ottawa Scale and Rob2 tool quality assessment.

Study	Selection	Comparability	Outcome	Total
Sobiczewski, et al. 2009	★★★★	★★	★★	★★★★★★★
Toptas, et al. 2014	★★★★		★★★	★★★★★★★
Mendivil, et al. 2015	★★★★	★★	★★★	★★★★★★★
Park, et al. 2016	★★★★	★★	★★	★★★★★★★
Zanagnolo, et al. 2016	★★★★	★	★★★	★★★★★★★
Gil-Moreno, et al. 2019	★★★★	★	★★★	★★★★★★★
Matanes, et al. 2019	★★★★	★	★★★	★★★★★★★
Alfonzo, et al. 2019	★★★★	★★	★★★	★★★★★★★
Kim, et al. 2019	★★★★	★	★	★★★★★★
Doo, et al. 2019	★★★★		★	★★★★★
Kanao, et al. 2019	★★★★	★	★★★	★★★★★★★
Brandt, et al. 2019	★★★★		★★★	★★★★★★★
Lim, et al. 2019	★★★★		★★	★★★★★★
Yang, et al. 2020	★★★★	★	★★★	★★★★★★★

Anchora, et al. 2020	★★★★	★	★★★	★★★★★★★★
Bogani, et al. 2020	★★★★	★	★★	★★★★★★★
Kwon, et al. 2020	★★★★	★	★★★	★★★★★★★★
Zaccarini, et al. 2021	★★★★		★★	★★★★★★
Kim, et al. 2021	★★★★	★	★★★	★★★★★★★★
Sert, et al. 2021	★★★★	★	★★★	★★★★★★★★
Baiocchi, et al. 2022	★★★★	★	★★	★★★★★★★

111 All the studies are retrospective cohorts.

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114 Supplement 3. Excluded articles

115 Wrong outcomes

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310 Supplement 4. Studies included in the systematic review.

Study	Total	Open surgery (n)	Minimally invasive surgery		Median age, years	Follow-up, months
			Laparoscopic (n)	Robotic (n)		
Sobiczewski, et al. 2009	80	58	22	NA	48.2	47 open, 26 MIS
Toptas, et al. 2014	68	46	22	0	50 open, 46 MIS	43
Mendivil, et al. 2015	146	39	49	58	48.8	Not defined
Park, et al. 2016	293	107	186	NA	46.3	Not defined
Zanagnolo, et al. 2016	307	104	NA	203	45.8	41.6
Ramirez, et al. 2018	631	312	269	50	46	54
Gil-Moreno, et al. 2019	188	76	22	90	48.2	112.4
Matanes, et al. 2019	98	24	NA	74	47	46
Alfonzo, et al. 2019	864	236	NA	628	43	44.5
Kim, et al. 2019	565	343	222	NA	49.5	34
Doo, et al. 2019	105	56	NA	49	42.3	25.4
Kanao, et al. 2019	163	83	80	NA	46.5	31.3 open, 30.2 MIS

Brandt, et al. 2019	196	79	117	NA	45	46.9 open, 46.2 MIS
Lim, et al. 2019	136	85	51	NA	48	35.8 open, 29.2 MIS
Yang, et al. 2020	333	181	NA	152	47.1 open, 45.3 MIS	53
Anchora, et al. 2020	286	143	143	NA	46	49 (median)
Bogani, et al. 2020	1058	823	235	NA	45	39.1
Kwon, et al. 2020	510	258	252	NA	49 open, 50 MIS	80.4
Zaccarini, et al. 2021	93	32	61	NA	51 open, 48.3 MIS	65.6
Kim, et al. 2021	148	38	90	20	50.9	42.1
Sert, et al. 2021	582	353	7	222	42	73
Baiocchi, et al. 2022	776	384	392	NA	42	47.9

311 All studies, except by Ramirez 2018 are retrospective cohort studies. MIS, minimally invasive surgery; NA, not available.

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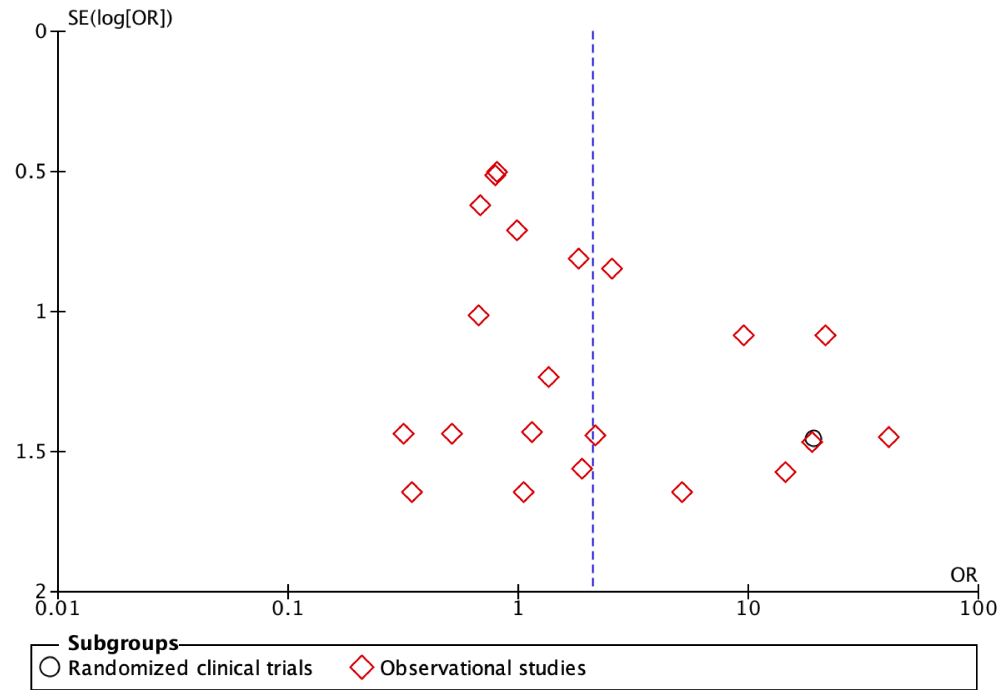
316 Supplement 5. Recurrences according to surgical approach.

Study	No. of patients	Recurrences (n)	Open surgery (n)	Minimally invasive surgery	
				Laparoscopic (n)	Robotic (n)
Sobiczewski, et al. 2009	80	10	7	3	NA
Toptas, et al. 2014	68	8	5	3	NA
Mendivil, et al. 2015	146	17	6	5	6
Park, et al. 2016	293	38	17	21	NA
Zanagnolo, et al. 2016*	307	29	11	NA	18
Ramírez, et al. 2018.	631	48	11		37
Gil-Moreno, et al. 2019	188	28	11	13	4
Matanes, et al. 2019	98	9	4	NA	5
Alfonzo, et al. 2019	864	84	29	NA	55
Kim, et al. 2019	565	51	22	29	NA
Doo, et al. 2019	105	20	8	NA	12
Kanao, et al. 2019	163	13	8	5	NA
Brandt, et al. 2019*	196	20	8	12	NA
Lim, et al. 2019	136	16	7	9	NA
Yang, et al. 2020*	333	52	31	NA	21
Anchora, et al. 2020	286	62	35	27	NA
Bogani, et al. 2020 *	1058	152	117	35	NA
Kwon, et al. 2020	510	39	20	19	NA
Zaccarini, et al. 2021	93	13	5		8
Kim, et al. 2021	148	17	2	15	NA
Sert, et al. 2021	582	60	30		30
Baiocchi, et al. 2022 *	776	73	39		34
Total	6995	811	422	389	

317 NA, not available. *Requested additional information from original publication. Zaccarini 2021, Sert 2021, and Baiocchi

318 2022 did not specify the surgical approach

319 Supplement 6. Funnel plot assessment of publication bias, comparing the risk of recurrence presenting as peritoneal
320 carcinomatosis.



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322 SE: standard error, OR: odds ratio

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