

Appendix 1. Full Search Strategies for Electronic Databases

PubMed search:

	Search Algorithm	Search Results
#1	("leiomyoma"[Mesh] OR "leiomyomas"[tiab] OR "leiomyomata"[tiab] OR "fibroid"[tiab] OR "fibroids"[tiab] OR "myoma"[tiab] OR "myomas"[tiab] OR (fibroma[mh] AND (uterine diseases[mh] OR uterus[mh])) AND ("Pregnancy"[Mesh] OR "pregnancy"[tiab] OR "fertility"[Mesh] OR "abortion, spontaneous"[Mesh] OR "fetal death"[Mesh] OR "spontaneous abortion"[tiab] OR "miscarriage"[tiab])	3,101
#2	#1 AND ("humans"[MeSH Terms] AND English[lang])	1,971
#3	newspaper article[pt]	0
#4	letter[pt]	59
#5	comment[pt]	11
#6	case reports[pt]	514
#7	review[pt]	325
#8	practice guideline[pt]	8
#9	news[pt]	0
#10	editorial[pt]	4
#11	historical article[pt]	3
#12	meta-analysis[pt]	3
#13	legal cases[pt]	0
#14	#2 NOT (#4 OR #5 OR #6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13)	1045

Web of Science search:

	Search Algorithm	Search Results
#1	Fibroids OR Leiomyoma OR Leiomyomata OR Myoma	23,294
#2	Miscarriage OR Spontaneous Abortion OR Abortion OR Fetal Death OR Pregnancy Loss	136,640
#3	#1 AND #2	836
#4	#3 AND English[lang]	550
#5	#4 AND article[pt]	469
#6	#5 AND "humans"	460

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#7	#6 NOT (case reports[pt] OR reviews[pt] OR comments [pt] OR practice guideline[pt])	423
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EMBASE search

	Search Algorithm	Search Results
#1	leiomyoma.mp. or exp leiomyoma/	18,886
#2	exp uterus myoma/ or leiomyomata.mp.	12,045
#3	fibroid.mp.	4,506
#4	exp myoma/ or myoma.mp.	15,703
#5	fibroma.mp. or exp fibroma/	15,133
#6	uterus.mp. or exp uterus/	197,559
#7	#5 AND #6	793
#8	#1 OR #2 OR #3 OR #4 OR #7	32,204
#9	pregnancy.mp. or exp pregnancy/	755,053
#10	exp fertility/ or fertility.mp.	102,499
#11	spontaneous abortion.mp. or exp spontaneous abortion/	33,739
#12	miscarriage.mp.	12,392
#13	fetal death.mp. or exp fetus death/	34,196
#14	pregnancy loss.mp.	6748
#15	#9 OR #10 OR #11 OR #12 OR #13 OR #14	838,294
#16	#8 AND #15	4,741
#17	limit #16 to human	4212
#18	limit #17 to english language	3375
#19	limit #18 to article	1867
#20	limit #19 to exclude MedLine journals	273
#21	#20 NOT ("case report" [pt])	170

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	Search Algorithm	Search Results
#1	("leiomyoma"OR "leiomyomas" OR "leiomyomata" OR "fibroid" OR "fibroids" OR "myoma" OR "myomas") AND ("pregnancy loss" OR "fetal death" OR "spontaneous abortion" OR "miscarriage")	7
#2	limit #1 to completed	1

Appendix 2. Data Extraction Tool

Abstract number	<hr/>
First author	<hr/>
Year published	<hr/>
Journal	<hr/>
Study design:	<ul style="list-style-type: none"><input type="radio"/> Prospective Cohort<input type="radio"/> Retrospective Cohort<input type="radio"/> Case-Control
Years of study:	<hr/>
Study setting:	<hr/>
Describe recruitment of exposed (women with fibroids)	<hr/>
Describe recruitment of unexposed (women without fibroids)	<hr/>
Describe study population exclusion criteria	<hr/>
How and when was fibroid status assessed in exposed group?	<hr/>
How and when was fibroid status assessed in unexposed group?	<hr/>
How was miscarriage defined?	<hr/>
Age distribution of study population	<hr/>
Distribution of race in the study population	<hr/>

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Distribution of parity in the study population

Distribution of induced abortion history the study population

Distribution of BMI in the study population

Distribution of alcohol use in the study population

Number of women with fibroids who had a spontaneous abortion

Number of women with fibroids who did not have a spontaneous abortion

Number of women without fibroids who had a spontaneous abortion

Number of women without fibroids who did not have a spontaneous abortion

Crude point estimate and 95% confidence intervals

Adjusted estimate provided

- ☐ Yes
- ☐ No

Covariates included in adjusted analysis

Adjusted point estimate and 95% confidence intervals

Describe other analyses of the relationship between fibroids and miscarriage

Risk of Bias Estimator (Cohort)

Selection

- | | |
|--------------------------------------|--|
| Representativeness of exposed cohort | <ul style="list-style-type: none">○ Truly representative (one star)○ Somewhat representative of general population of reproductive-age women (one star)○ Selected group○ No description of derivation of the cohort |
| Selection of the non-exposed cohort | <ul style="list-style-type: none">○ Drawn from the same community as the exposed cohort (one star)○ Drawn from a different source○ No description of the derivation of the non-exposed cohort |

Exposure

- | | |
|--|---|
| Ascertainment of exposure | <ul style="list-style-type: none">○ Secure record (e.g., ultrasound verified diagnosis) (one star)○ Diagnosis based on symptoms○ Self-report○ No description○ Other |
| Demonstration that outcome of interest was not present at start of study | <ul style="list-style-type: none">○ Yes○ No |

Comparability

- | | |
|--|--|
| Comparability of cohorts on the basis of the design or analysis controlled for confounders | <ul style="list-style-type: none">○ The study controls for age (one star)○ Study controls for other factors (one star)○ Cohorts are not comparable on the basis of the design or analysis controlled for confounders |
|--|--|

What other factors did the study control for?

Outcome

Assessment of outcome

- Independent blind assessment (one star)
- Record linkage (one star)
- Self-report
- No description
- Other

Was follow-up long enough for outcome to occur?

- Yes
- No

Indicate the median duration of follow-up and a brief rationale for the assessment above

Adequacy of follow-up cohorts

- Complete follow-up: all subjects accounted for (one star)
- Subjects lost to follow-up unlikely to introduce bias: number lost less than or equal to 20% or description of those lost suggested no difference than those followed (one star)
- Follow-up rate less than 80% and no description of those loss
- No description

Appendix 3. Risk of bias assessment.

Newcastle-Ottawa Scale for risk of bias assessment of included studies¹

Studies	Representativeness, Selection	Representativeness, Comparability	Fibroid Status, Imaging	Outcome Free at Study End	Adjust for Confounders *	Miscarriage Assessment	Follow-up Length	Loss to Follow-up	Grade†
Exacoustòs 1993									G
Mollica 1996									P
Benson 2001									G
Salvador 2002									G
Cignini 2011									P
Majeed 2011									P
Corrado 2012									P
Theodora 2016									G
Hartmann 2017									G

Abbreviations: G, good; P, poor

* Adjustment deemed adequate if study adjusted for both maternal age and maternal race

† Based on Agency for Healthcare Research and Quality grades: Good, Fair, Poor²

References:

1. Wells GA, Shea B, O'Connell D, Peterson J, Welch V, Losos M, et al. The Newcastle-Ottawa Scale for assessing the quality of non-randomised studies in meta-analyses. Available at: http://www.ohri.ca/programs/clinical_epidemiology/oxford.asp. Retrieved May 15, 2016.
2. Viswanathan M, Ansari MT, Berkman ND, Chang S, Hartling L, McPheeters LM, et al. Assessing the

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Risk of Bias of Individual Studies in Systematic Reviews of Health Care Interventions. Agency for Healthcare Research and Quality Methods Guide for Comparative Effectiveness Reviews. AHRQ Publication No 12-EHC047-EF 2012.

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