The Royal Australian and New Zealand College of Obstetricians and Gynaecologists
Excellence in Women's Health

Fibroids in infertility

This statement has been developed and reviewed jointly by the Women's Health Committee and has been approved by the RANZCOG Board and Council.

A list of Women's Health Committee Members can be found in Appendix A.

Disclosure statements have been received from all members of this committee.

Disclaimer This information is intended to provide general advice to practitioners. This information should not be relied on as a substitute for proper assessment with respect to the particular circumstances of each case and the needs of any patient. This document reflects emerging clinical and scientific advances as of the date issued and is subject to change. The document has been prepared having regard to general circumstances.

First endorsed by RANZCOG: March 2011
Current: March 2018
Review due: March 2021

Objectives: To provide practice guidance on the assessment and management of fibroids in infertility.

Target audience: All health practitioners providing gynaecological care and patients.

Values: The evidence was reviewed by the Women's Health Committee (RANZCOG), and applied to local factors relating to Australia and New Zealand.

Background: This statement was first developed by Women's Health Committee in March 2011 and reviewed in March 2018.

Funding: The development and review of this statement was funded by RANZCOG.

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1. Patient summary

A fibroid (leiomyoma) is a benign growth of muscle in the uterus (womb). These growths may occur on the outside (subserosal fibroid), in the body (intramural) or in the cavity (submucosal) of the uterus. Some fibroids have an effect on the ability to fall pregnant. This statement provides guidance for specialists in the assessment and management of fibroids for women who are wishing to fall pregnant.

2. Introduction

The effect of fibroids on fertility is poorly understood and the most appropriate management remains controversial. The effect on fertility is likely to be related to the fibroid size, position subserosal (SS), intramural (IM) or submucosal (SM) and number. The outcome of previous fertility treatments and pregnancies will also guide management.

3. Discussion and recommendations

3.1 Evaluation of uterine fibroids

Fibroid position appears to influence fertility, therefore imaging techniques must be able to exclude uterine cavity involvement by the fibroid. Hysterosalpingography and transvaginal ultrasound are insufficiently sensitive or specific.

The optimal imaging techniques for excluding cavity involvement by fibroids are either MRI, sonohysterography or hysteroscopy, though hysteroscopic assessment with hysteroscopy may at times under-represent submucosal (SM) lesions because of raised intrauterine pressure causing temporary regression of the fibroid contour.

3.2 Effect of fibroid position on fertility outcomes and the effect of myomectomy

Fertility outcomes have been reported in both spontaneous and assisted conception, though the majority of studies consider outcomes in in vitro fertilisation (IVF).

SS fibroids do not appear to have a significant effect on fertility outcomes. IM fibroids may be associated with reduced fertility and an increased miscarriage rate.

However, there is insufficient evidence to determine whether myomectomy for IM fibroids improves fertility outcomes.

SM fibroids are associated with reduced fertility and an increased miscarriage rate.

Hysteroscopic myomectomy for SM fibroids is likely to improve fertility outcomes, however, the quality of the included studies is poor and further research is required.[1]

The relative effect of multiple or different sized fibroids on fertility outcomes are uncertain and further research is required.

3.3. Indications for myomectomy in infertile women

Fibroid size, number and location within the uterus may impact on the utility of myomectomy, and this will need to be considered in the management plan for an individual patient. The indications for myomectomy in infertile women may be summarized as follows:

- Infertile women and those women undergoing Assisted Reproductive Technology (ART) who have demonstrated SM fibroid(s).
- Infertile women with symptomatic fibroid(s), such as heavy vaginal bleeding or pressure symptoms, even though trial evidence does not show clear fertility benefit, the presence of symptoms may justify the intervention.
- Couples presenting with multiple failed cycles of Assisted Reproductive Technology (ART) where the female partner has IM fibroids.

3.4 Alternative surgical treatment methods of fibroids in women desiring future fertility

Myomectomy is the accepted surgical management for fibroids that are felt to influence fertility. This may be via a laparotomy, laparoscopic or hysteroscopic approach depending on the size and location of the fibroid.

Surgical approaches such as temporary or permanent uterine artery ligation should only be used in the setting of clinical trials.

3.5 Other treatments for the management of fibroids in women desiring future fertility

Uterine artery embolisation (UAE), magnetic resonance guided focused ultrasound surgery (MRgFUS), myolysis and radio-frequency ablation (RFA) should only be used in the setting of approved clinical trials on the management of fibroids in women with infertility.

3.6 The role of medical management of fibroids in women desiring future fertility

Medical management of fibroids delays efforts to conceive and is not recommended for the management of infertility associated with fibroids. However, short term use of a GnRH analogue can be useful for pre-operative correction of anaemia or short term reduction in fibroid volume. The use of ulipristal acetate in infertile women with fibroids is not recommended due to the risk of significant adverse side effects.[2]

4. References

1. Metwally M, Cheong YC, Horne AW. Surgical treatment of fibroids for subfertility. The Cochrane Database of Systematic Reviews. 2012;11:Cd003857.

2. European Medicines Agency. Women taking Esmya for uterine fibroids to have regular liver tests while EMA review is ongoing. Cited 28 March 2018. Available at: http://www.ema.europa.eu/docs/en_GB/document_library/Referrals_document/Esmya_20/Under_evaluation/WC500243545.pdf 2018.

5. Other suggested reading

1. Kroon BF, Johnson NP, Chapman M, Yazdani A, Hart R. Consensus statement on Fibroids in Infertility. Australian and New Zealand Journal of Obstetrics and Gynaecology 2011; 51: 289-94.

2. Purohit P, Vigneswaran K. Fibroids and Infertility. Current Obstetrics and Gynecology Reports. 2016;5:81-88. doi:10.1007/s13669-016-0162-2.

6. Links to other College statements

1. Uterine Artery Embolisation for the treatment of Uterine Fibroids (C-Gyn 23)
https://www.ranzcog.edu.au/RANZCOG_SITE/media/RANZCOG-MEDIA/Women%27s%20Health/Statement%20and%20guidelines/Clinical%20-%20Gynaecology/Uterine-Artery-Embolisation-(C-Gyn-23)-Review-November-2014.pdf?ext=.pdf

2. Evidence-based Medicine, Obstetrics and Gynaecology (C-Gen 15)
https://www.ranzcog.edu.au/RANZCOG_SITE/media/RANZCOG-MEDIA/Women%27s%20Health/Statement%20and%20guidelines/Clinical%20-%20General/Evidence-based-medicine,-Obstetrics-and-Gynaecology-(C-Gen-15)-Review-March-2016.pdf?ext=.pdf

7. Patient information

A range of RANZCOG Patient Information Pamphlets can be ordered via:

https://www.ranzcog.edu.au/Womens-Health/Patient-Information-Guides/Patient-Information-Pamphlets

8. Appendices

Appendix A Women's Health Committee Membership

Name	Position on Committee
Professor Yee Leung	Chair
Dr Joseph Sgroi	Deputy Chair, Gynaecology
Associate Professor Lisa Hui	Member
Associate Professor Ian Pettigrew	EAC Representative
Dr Tal Jacobson	Member
Dr Ian Page	Member
Dr John Regan	Member
Dr Craig Skidmore	Member
Associate Professor Janet Vaughan	Member
Dr Bernadette White	Member
Dr Scott White	Member
Associate Professor Kirsten Black	Member
Dr Greg Fox	College Medical Officer
Dr Marilyn Clarke	Chair of the ATSI WHC
Dr Martin Byrne	GPOAC Representative
Ms Catherine Whitby	Community Representative
Ms Sherryn Elworthy	Midwifery Representative
Dr Amelia Ryan	Trainee Representative

Appendix B Overview of the development and review process for this statement

i. Steps in developing and updating this statement

This statement was originally developed in March 2011 and was most recently reviewed in March 2018. The Women's Health Committee carried out the following steps in reviewing this statement:

- Declarations of interest were sought from all members prior to reviewing this statement.
- Structured clinical questions were developed and agreed upon.
- An updated literature search to answer the clinical questions was undertaken.
- At the March 2018 face-to-face committee meeting, the existing consensus-based recommendations were reviewed and updated (where appropriate) based on the available body of evidence and clinical expertise.

ii. Declaration of interest process and management

Declaring interests is essential in order to prevent any potential conflict between the private interests of members, and their duties as part of the Women's Health Committee.

A declaration of interest form specific to guidelines and statements was developed by RANZCOG and approved by the RANZCOG Board in September 2012. The Women's Health Committee members were required to declare their relevant interests in writing on this form prior to participating in the review of this statement.

Members were required to update their information as soon as they become aware of any changes to their interests and there was also a standing agenda item at each meeting where declarations of interest were called for and recorded as part of the meeting minutes.

There were no significant real or perceived conflicts of interest that required management during the process of updating this statement.

Appendix C Full Disclaimer

This information is intended to provide general advice to practitioners, and should not be relied on as a substitute for proper assessment with respect to the particular circumstances of each case and the needs of any patient.

This information has been prepared having regard to general circumstances. It is the responsibility of each practitioner to have regard to the particular circumstances of each case. Clinical management should be responsive to the needs of the individual patient and the particular circumstances of each case.

This information has been prepared having regard to the information available at the time of its preparation, and each practitioner should have regard to relevant information, research or material which may have been published or become available subsequently.

Whilst the College endeavours to ensure that information is accurate and current at the time of preparation, it takes no responsibility for matters arising from changed circumstances or information or material that may have become subsequently available.