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**Cochrane Nursing Care Field – Cochrane Review Summary**

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**Hormonal therapy before surgery for uterine fibroids**

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## **Background**

Uterine fibroids are benign, smooth muscle tumours in the uterus (womb) and occur in up to 40% of women aged over 35 years. For some, these are asymptomatic and do not require treatment, but up to 50% of women affected can experience symptoms including heavy menstrual bleeding (leading to anaemia), dysmenorrhoea (painful periods), infertility and low quality of life. These women warrant treatment and the first choice intervention is surgery. Recently, medical therapies have been used pre-operatively to improve intra- and post-operative outcomes. Fibroid growth is stimulated by oestrogen, by administering gonadotropin-hormone releasing analogues (GnRHa) the oestrogen is offset causing a reduction in uterine and fibroid size, therefore reducing the difficulty of the surgery, the risk of bleeding and other associated surgical complications. Other potential hormonal therapies include progestins, dopamine agonists and selective progesterone–receptor modulators (SPRMs). These therapies are only for short-term use due to their potential side effects including bone loss, plus they tend to be expensive.

This review is an update of a previously published Cochrane Review published in 2000 and 2001, with the scope broadened to include all preoperative medical treatments. The relevance of this research to nursing relates to patient experience and service provision. The women undergoing these therapies have improved surgical outcomes, for example, reduced risk of haemorrhage and the need for more extensive surgery. This will also reduce their need for longer hospitalisation

### **Objective/s:**

This review aims to assess if giving pre-operative hormonal therapies for uterine fibroids improves surgical outcomes.

### **Intervention/Methods:**

The reviewers gathered data by conducting searches of six prominent databases (Cochrane Gynaecology and Fertility Group specialised register, CENTRAL, MEDLINE, Embase, PsycINFO and CINAHL), trials registers (including the World Health Organisation portal and clinicaltrials.gov), theses, dissertations, unpublished or non-commercially published research. They contacted pharmaceutical companies to identify additional studies which met the inclusion criteria (comparison of medical therapies versus placebo, or no treatment, when administered before surgery for uterine fibroids). Surgeries included myomectomy (removal of

fibroids from the uterus), hysterectomy (removal of the uterus) or endometrial resection. The studies included randomised controlled trials (RCTs) from all years up until June 2017 with no restriction on the language of publication.

Trials where medical therapies were the sole treatment, without surgery, were excluded.

The searches identified thirty-eight RCTs involving 3623 women. Interestingly, of the 38 studies included, 14 were wholly or partially funded by pharmaceutical companies, 3 were funded by hospitals or institutions, and the funding source of the remaining 21 studies was unclear. Therefore it is not possible to state if conflict of interest influenced the results.

### **Results:**

The use of GnRHa treatments showed a reduction in both fibroid and uterine size and an increase in pre-operative haemoglobin levels. During surgery for hysterectomy, there was found to be less blood loss (therefore, requiring fewer blood transfusions), less time in surgery (reduced by an average of 14 minutes) and fewer post-operative complications. The results for those undergoing myomectomy showed less blood loss intraoperatively, but did not produce similar results for surgical time or post-surgical complications. However, the women reported an increased likelihood of experiencing unwanted hot flushes. The SPRM drug, ulipristal acetate, had similar results.

The reviewers acknowledged the uncertainties associated with many of the findings, including potential bias, small trial size and the experience of the surgeon.

### **Conclusions:**

This review suggests that the use of GnRHa and SPRM therapies prior to surgery for uterine fibroids is beneficial as they can reduce the complexity of the surgical procedure, lessen blood loss and decrease the incidence of anaemia. However, the review acknowledges that some women who received GnRHa experienced increased frequency of hot flushes. This requires further investigation as the study sizes were small and the reviewers themselves stated that replication of these studies was advisable before firm conclusions could be made. Further exploration should also include identifying which women would benefit most from this therapy due to the cost implication, an increasing consideration in global healthcare provision (Appleby 2013). The improvement of surgical outcomes is important to nursing as it improves the patient

experience by reducing the risk of potential complications, which can be debilitating or fatal, and improves recovery time and the need for a prolonged hospital stay.

### **Implications for Practice:**

There are assumed benefits for the use of GnRHa and ulipristal acetate therapies prior to surgery although these need further investigation on a larger scale. In the United Kingdom, the National Institute for Health and Care Excellence (NICE) has removed the use of ulipristal acetate as a first line treatment for heavy menstrual bleeding on the advice of the European Medicines Agency which has introduced temporary safety measures to include performing at least monthly liver function tests on all existing patients (NICE 2018). This could be with prolonged use which the study was not advocating, therefore, further research is required to establish the role these medical therapies can play in improving the outcomes of women being treated for uterine fibroids.

### **References:**

Lethaby A, Puscasiu L, Vollenhoven B. (2017). Preoperative medical therapy before surgery for uterine fibroids. Cochrane Database of Systematic Reviews, Issue 11. Art. No.: CD000547.

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