How Effective are Current Treatment Strategies, in Patients with Uterine Myomas?

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Uterine myomas are benign, hormone-sensitive, fibromuscular tumors that diagnosed in about 25%-40% of women during their reproductive age [1]. Uterine myomas may be asymptomatic or they can cause abnormal uterine bleeding, pelvic pain, pressure complaints, pregnancy-related complications and infertility [2].

The management of women with uterine myomas remains controversial. Various treatment protocols use medical treatment (GnRH analogues), radiological intervention (uterine artery embolization, focused ultrasound surgery) or surgical intervention (myomectomy, hysterectomy) [3-7]. Recent advances in the nonsurgical management of uterine myomas have shown promising results simplifying or eliminating the need for surgical intervention [8].

Stand-alone treatment with GnRH analogues results in temporary relief of symptoms [3]. However they are expensive and have significant side-effects [3]. Also, uterine myomas return to their initial size within a few months of discontinuation of the treatment [8-10]. For those reasons, GnRH analogues cannot be used as stand-alone treatment [3].

Preoperative treatment for 3 to 4 months with GnRH analogues: improves hematocrit levels and reduces myomas size, total uterine volume and intraoperative blood loss [9]. This is very important especially for patients with anemia and/or large uterine myomas.

Certainly, preoperative use of GnRH analogues makes myomectomy technically easier and less time consuming [7]. However in some cases uterine myomas become softer with less distinct surgical planes and this can result in technical difficulties and increased intraoperative bleeding [7,11]. Also there may be an increased risk of recurrence, because small uterine myomas recognized intraoperatively with difficulty [9].

Potential agents that have been used with varying degrees of success are: selective estrogen receptor modulators (SERMs), antiprogestins (RU486 and anasprinil), aromatase inhibitors, carbogeline, danazol and gestrinone [3].

Uterine artery embolization (UAE) via a transcatheter femoral artery approach, blocks uterine blood supply [4]. That causes irreversible ischemia and leads to necrosis and shrinkage of uterine myomas [4,12]. It is a safe, effective and minimal invasive method for appropriately selected women who wish to preserve their uterus [13]. It results in shorter hospital stay, quicker return to activities and a higher minor complication rate after discharge [14].

UAE in the large majority of patients substantially improves symptoms and quality of life [13]. Although pregnancy is possible after UAE, there is increased risk of obstetric complications (miscarriage, abnormal placentaion, preterm labor, malpresenation and postpartum hemorrhage) [15-17].

Magnetic resonance guided focused ultrasound surgery (MRgFUS) uses high intensity ultrasound waves directed into a focal volume of uterine myoma [18]. The ultrasound energy penetrates soft tissue and produces well defined regions of protein denaturation, irreversible cell damage and coagulative necrosis [18,19]. MRgFUS is a safe, effective and minimal invasive procedure for the treatment of uterine myomas [20]. The procedure can be performed on an outpatient basis and patients are able to return to their normal activities in 1 day [20].

Initial trials of the procedure were restricted in premenopausal women with uterine myomas that have completed their childbearing [21]. However, pregnancies can be achieved in a substantial percentage of patients treated with MRgFUS [21]. Those pregnancies need to be followed up carefully, with ultrasound evaluation of placental site and placental status to ensure appropriate care if abnormalities are detected [21].

Hysterectomy is the definitive surgical treatment for symptomatic perimenopausal women with multiple uterine myomas that have completed childbearing [5,22]. However, for infertile women and for women wanting to preserve future childbearing capability, myomectomy remains the treatment of choice [7,8,22]. In myomectomy the aim is to remove all visible uterine myomas and reconstruct uterine defects properly [11,22]. Rarely procedural complications during myomectomy, may lead to an unanticipated hysterectomy [11].

Classical laparotomic myomectomy is associated with significant morbidity including excessive blood loss, infection and postoperative adhesions [23]. However, it is a safe and effective procedure for the treatment of uterine myomas [11].

Laparoscopic myomectomy is an alternative with fewer complications, shortened hospital stay and less disability [6]. However, laparoscopic approach is a tedious operation especially in intramural uterine myomas and requires skills in suturing [24,25]. Also, many gynecologists are not skilled laparoscopists to perform laparoscopic myomectomy and uterine repair [26].

In order to maintain the efficacy of uterine repair and to reduce the clinical impact of laparotomic myomectomy, mini laparotomic myomectomy has been proposed as an alternative to laparoscopic myomectomy [26,27]. It is technically less difficult to perform than laparoscopic myomectomy and gives the opportunity to close the uterine defect properly and adequate, requiring less operative time and cost [28,29]. It is obvious that surgical technique in mini laparotomic myomectomy is basically the same as in classical laparotomic myomectomy [28].

Mini laparotomic myomectomy has less intraoperative or early postoperative complications, low risk of conversion to laparotomy and low risk of recurrence compared with laparoscopic myomectomy [28-32]. Also, it has significantly less postoperative pain and better recovery (earlier mobilization, shorter time of postoperative ileus and shorter hospital stay) [29,33].
Hysteroscopic myomectomy is an acceptable method for the management of submucosal uterine myomas [5].

It is obvious that nonsurgical management of uterine myomas has shown promising results simplifying or eliminating the need for surgical intervention. However, it is inappropriate for infertile women and for women wanting to preserve future childbearing capability [8]. For those women myomectomy remains the treatment of choice [7,8].

References