

Fertility following myomectomy

Leiomyomas of the uterus are the most common solid pelvic tumors found in women and are estimated to occur in 20-50% of women with increased frequency during the late reproductive years.^[1]

Different theories have been proposed to explain the effects of myomas on fertility. It is generally accepted that the anatomical location of a fibroid is an important factor, with submucous, intramural and subserosal fibroids implicated in decreasing order of importance, in causing infertility.^[2] Myomas may cause dysfunctional uterine contractility which may interfere with sperm migration, ovum transport or nidation.^[3-5] Myomas may also be associated with implantation failure or gestation discontinuation due to focal endometrial vascular disturbance, endometrial inflammation, secretion of vasoactive substances or an enhanced endometrial androgen environment.^[2,4]

Donnez and Jadoul, in their evaluation of the relationship between leiomyomas and infertility, analyzed 46 studies on fertility outcome after myomectomy in infertile patients. The global pregnancy rate after myomectomy in infertile women, regardless of the kind of surgery undertaken, varies between 9.6% and 76.9%. On the other hand, the global pregnancy rate found in these 46 studies is 48% (783 pregnancies in 1631 subjects). The pregnancy rate after hysteroscopic myomectomy is 45% (168/376) and after laparoscopic or abdominal myomectomy, 49% (615/1255).^[2]

Poncelet *et al.* analyzed the literature on myoma and infertility and found that a relationship between myoma and sterility was probable, although no proof was obtained. Myomectomy efficacy was not statistically proven, but almost 60% of patients became pregnant spontaneously 24 months after myomectomy.^[6]

In a retrospective study of 41 infertile patients, Chaker *et al.* found that 19 women conceived (46.34%) after myomectomy. An age of <40, a sterility period of <5 years duration and the absence of associated factors seemed to enhance the chances of these patients to conceive after myomectomy.^[7]

Another retrospective analysis in Croatia of 78 women who had undergone myomectomy between 1980 and 2000 showed that the overall pregnancy rate in 66 patients that attempted pregnancy following myomectomy was 59.1%.^[8]

In a prospective study of 40 women in Aba, South Eastern Nigeria, Chigbu *et al.* found that myomectomy for fibroid-associated infertility increase pregnancy rates and that approximately 60% of women undergoing the procedure subsequently conceived.^[9] This is one of the few prospective studies on the subject.

The favorable pregnancy rates obtained after myomectomy lead us to believe that myomas influence fertility. However, we have no control groups of women who did not undergo surgery.^[2] Hence, the question about the influence of myomas on fertility remains unanswered. More approximate prospective studies are required to answer this question clearly.

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