



Predictive factors of IVF success after laparoscopic management of pelvic endometriosis

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Introduction

Endometriosis and infertility are frequently associated. The course of management of infertility related to endometriosis is complex due to the lack of recommendations as to the place and value of surgery.

The aim of this study was to evaluate IVF outcomes in women with pelvic endometriosis after surgical treatment and to analyses factors associated with viable pregnancy.

Methodology and research tools:

A monocentric retrospective descriptive and analytic study conducted in the department of obstetrics and gynecology of Ben Arous Hospital in Tunisia.

We underwent a review of medical records referring to pelvic endometriosis and infertility between 2019 and 2021.Only cases with IVF management after surgery had been included. Patients with diminished ovarian reserve and couples with male severe spermatic disorder had been excluded. We collected 30 cases of patients who underwent IVF after surgical management of pelvic endometriosis.

Results

The average age of our patients was 30.4 years [28 to 40]. The average duration of infertility was 32 months [13 to 59months]. Demographic characteristics were comparable in women with and without viable pregnancy.

	Viable pregnancy (n= 13)	No viable pregnancy (n= 17)	p
Age	29,8±4,2	30,8±4,2	0,2071
IMC	21,2±2,6	21,7±3,1	0,3004
Tobacco use	5	8	0,9806
PREVIOUS ABDOMINAL SURGERY	4 (31,42%)	7(43%)	0,1125
INFERTILITY DURATION	28,9±14,5	40,9±24,6	0,0013
Dysmenorrhea	11 (85,7)	15(89,47)	0,6571
Dyspareunia	7 (54,2)	16(65,7)	0,1814
Primary infertility	10 (77,1)	12,5% (73,6)	0,8697

Table 1 : Demographic characteristics of the study's population

Results

According to the r-ASRM stage, endometriosis was stage I-II in 13,3% of patients and stage III-IV in 86,6% of cases. IVF was the first line treatment in 25 cases. In 5 patients it was indicated after fail with intrauterine sperm insemination (IUI). Pregnancy rate was (43.33%).

Pregnancy rate was (43.33). The pregnancy rate per cycle was 22.80%. The average time from laparoscopy to IVF was 368 days. The average time to pregnancy was 402 days. Pregnancy rate was similar within women with stage I-II and stage III-IV endometriosis (50% vs 42,3%).

In the survival analysis for obtaining a pregnancy, age (less than or greater than 35 years), stage of endometriosis (stage I and II vs. III and IV), duration of infertility before the operation, and the presence of adnexal damage were not significantly associated with obtaining a pregnancy in MPA.

On the other hand, the pregnancy rate was significantly higher in patients with a complete resection of endometriomas (p=0.03).

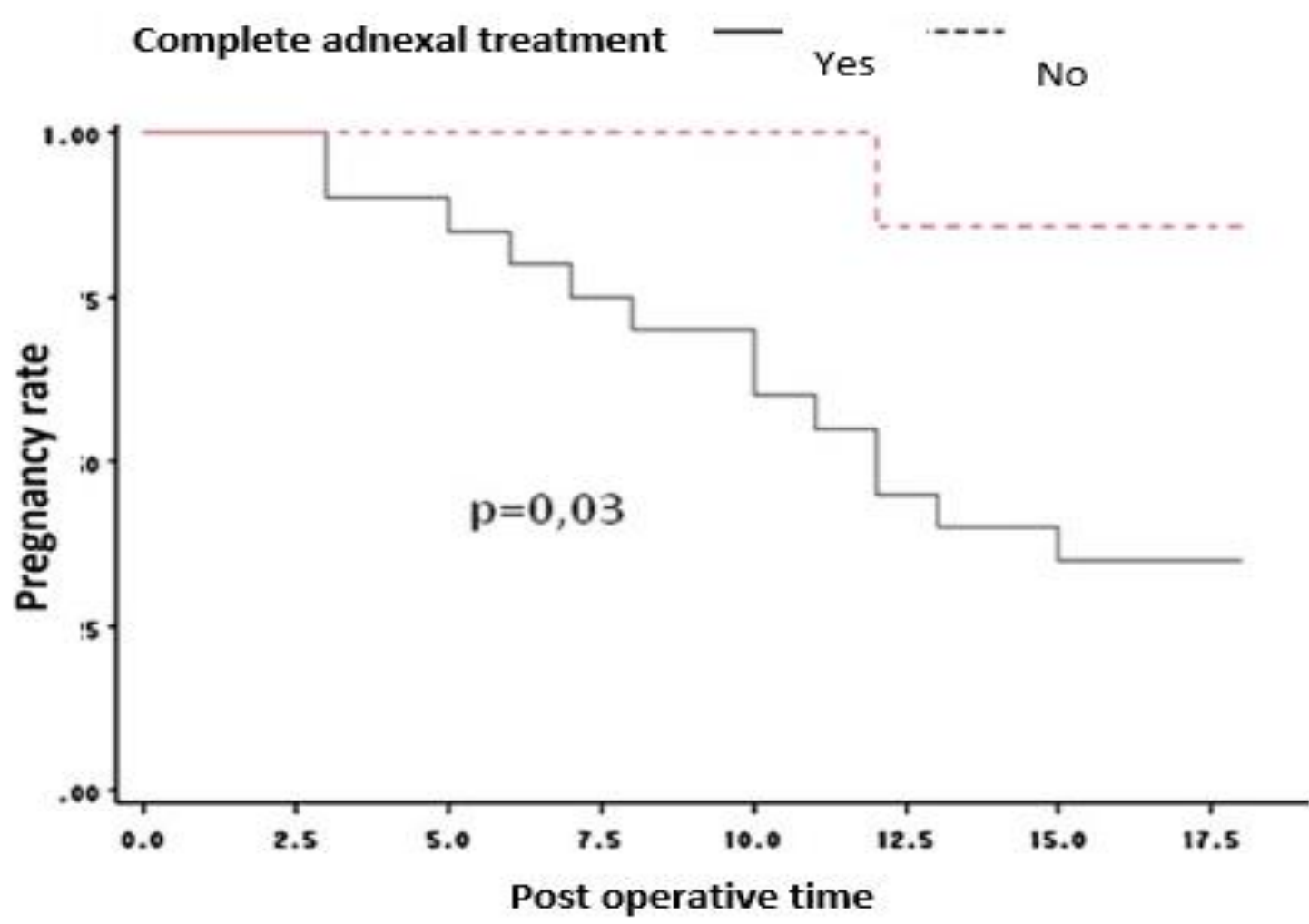


Figure 1: Survival analysis for obtaining a pregnancy after complete resection of endometriomas

Discussion

The role of surgery in improving IVF outcomes is debatable. In fact, in the context of endometriosis without pain associated with infertility, prior to IVF management, it is not recommended to undergo surgical treatment of superficial or deep endometriosis with the only purpose to increase the chances of pregnancy[1-2].

Moreover, there is no randomized controlled trial comparing the place of surgery after IVF failure. However, surgery seems to improve conception rates in IVF with a pregnancy rate for all stages combined of 76% after surgery compared with 35% without surgery in the study by Littman et al [3].

When comparing the quality of IVF embryos before and after surgical treatment in the study by Shahine et al, there was no alteration in the quality of embryos after surgical treatment and there was an increase in IVF pregnancy rates after surgery [4].

In our study endometriosis stage, and the presence or not of endometrioma were not associated with improved pregnancy rate. However complete resection of adnexal masses was associated with higher pregnancy rate. Consistent with these results, Ekine and al found that pregnancy rate after IVF is more dependent on surgical expertise than the stage of endometriosis [5].

The latest Cochrane systematic review recommends careful selection of candidates for surgery, sufficient surgical experience and appropriate equipment to ensure the best chance of success with this treatment [3].

Conclusion

Surgical management of pelvic endometriosis to improve IVF outcome seems not to be a good alternative. Quality of surgery seems to be the most important factor associated with higher pregnancy rate.

Références

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