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腹腔镜与经腹子宫肌瘤剔除术对有生育要求子宫肌瘤患者妊娠结局的影响及术后妊娠率的影响因素分析*

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摘要 目的:研究腹腔镜与经腹子宫肌瘤剔除术对有生育要求子宫肌瘤患者妊娠结局的影响及术后妊娠率的影响因素。**方法:**选取我院 2018 年 4 月至 2021 年 4 月收治的 80 例有生育要求的子宫肌瘤患者,其中接受经腹子宫肌瘤剔除术治疗的 40 例归为经腹组,接受腹腔镜子宫肌瘤剔除术治疗的 40 例归为腹腔镜组。比较两组手术疗效指标,术后并发症发生率以及术后妊娠率。此外,80 例患者根据出院后 1 年是否妊娠分为妊娠组和未妊娠组,以多因素 Logistic 回归分析术后妊娠率的影响因素。**结果:**在术后失血量、肛门恢复排气时间以及住院时间方面比较,腹腔镜组均优于经腹组($P<0.05$)。腹腔镜组术后并发症发生率低于经腹组($P<0.05$),两组术后妊娠率对比无统计学差异($P>0.05$)。单因素分析结果显示:年龄、肌瘤数目和子宫肌瘤剔除术患者术后是否妊娠有关($P<0.05$),而孕次、肌瘤类型、肌瘤最大直径以及穿透宫腔与否和子宫肌瘤剔除术患者术后是否妊娠无关($P>0.05$)。多因素 Logistic 回归分析结果显示:年龄 ≥ 35 岁以及肌瘤多发是子宫肌瘤剔除术患者术后未妊娠的危险因素($P<0.05$)。**结论:**腹腔镜与经腹子宫肌瘤剔除术对有生育要求子宫肌瘤患者妊娠结局的影响程度相当,但腹腔镜术式有助于患者术后康复,同时降低并发症发生风险。此外,年龄较大和肌瘤数目较多会使子宫肌瘤剔除术患者术后妊娠难度增加。

关键词:子宫肌瘤;子宫肌瘤剔除术;腹腔镜;妊娠结局;影响因素

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Influence of Laparoscopy and Transabdominal Myomectomy on Pregnancy Outcome of Patients with Uterine Myoma Requiring Fertility and the Analysis of Influencing Factors of Postoperative Pregnancy Rate*

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ABSTRACT Objective: To study the influence of laparoscopy and transabdominal myomectomy on pregnancy outcome of patients with uterine myoma requiring fertility and the influencing factors of postoperative pregnancy rate. **Methods:** A total of 80 patients with uterine myoma with fertility requirements who were admitted to our hospital from April 2018 to April 2021 were selected. Among them, 40 cases received transabdominal myomectomy were classified into the transabdominal group, and 40 cases received laparoscopy myomectomy were classified into the laparoscopy group. The operative efficacy indexes, postoperative complication rate and postoperative pregnancy rate were compared between the two groups. In addition, 80 patients were divided into pregnant group and non-pregnant group according to whether they were pregnant 1 year after discharge, and the influencing factors of postoperative pregnancy rate were analyzed by multivariate Logistic regression. **Results:** Compared with the terms of postoperative blood loss, anal recovery exhaust time and hospital stay, the laparoscopy group was better than the transabdominal group ($P<0.05$). The postoperative complication rate in laparoscopy group was lower than that in transabdominal group ($P<0.05$). There was no significant difference in postoperative pregnancy rate between the two groups ($P>0.05$). The results of univariate analysis showed that age, the myoma numbers were related to whether the patient with pregnant after myomectomy ($P<0.05$), while the number of pregnancies, the myoma type, the maximum myoma diameter and whether they penetrated the uterine cavity were not related to whether the patient with pregnant after myomectomy ($P>0.05$). Multivariate Logistic regression analysis showed that age ≥ 35 years and multiple myoma were the risk factors of patient with non pregnancy after myomectomy ($P<0.05$). **Conclusion:** Laparoscopy and transabdominal myomectomy have similar

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effects on the pregnancy outcomes of patients with uterine myoma with fertility requirements, but laparoscopy surgery can help patients recover after surgery and reduce the risk of complications. In addition, older age and more myoma numbers increase the difficulty of patients with pregnancy after myomectomy.

Key words: Uterine myoma; Myomectomy; Laparoscopy; Pregnancy outcome; Influencing factors

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前言

子宫肌瘤是妇科临床常见的一种良性肿瘤,其在育龄期女性中的发病率为 20~40%,该病会影响妊娠,对有生育需求的患者可能影响其身心健康、家庭和谐^[1-3]。有研究表明,药物保守治疗对子宫肌瘤的疗效甚微,而有生育要求的患者往往会选择手术治疗。既往,临床上主要是通过传统经腹子宫肌瘤剔除术治疗该病,虽可有效清除病灶,但会对患者造成较大的创伤,从而不利于患者术后康复^[4-6]。随着近年来微创理念的不断普及以及微创技术的飞速发展,腹腔镜子宫肌瘤剔除术开始受到广泛的关注,且其临床治疗效果已得到不少研究的证实^[7-9]。然而,关于上述两种术式对患者妊娠率影响的研究并不多见。鉴于此,本文通过研究腹腔镜与经腹子宫肌瘤剔除术对有生育要求子宫肌瘤患者妊娠结局的影响及术后妊娠率的影响因素,旨在为临床治疗提供方案选择,现作以下报道。

1 资料与方法

1.1 一般资料

选取我院 2018 年 4 月至 2021 年 4 月收治的 80 例有生育要求的子宫肌瘤患者,根据治疗方式的差异分成腹腔镜组及经腹组,每组各 40 例。腹腔镜组年龄 27~40 岁,平均(31.33±4.21)岁;不孕年限 1~6 年,平均(2.80±0.36)年;肌瘤类型:浆膜下肌瘤 5 例,肌壁间肌瘤 29 例,黏膜下肌瘤 6 例。经腹组年龄 26~41 岁,平均(31.18±4.21)岁;不孕年限 1~7 年,平均(2.76±0.34)年;肌瘤类型:浆膜下肌瘤 5 例,肌壁间肌瘤 28 例,黏膜下肌瘤 7 例。两组年龄、不孕年限、肌瘤类型比较差异无统计学意义($P>0.05$),有可比性。纳入标准:(1)经相关影像学检查确诊;(2)经保守治疗无效,行子宫肌瘤剔除术治疗;(3)年龄>20 岁;(4)术前存在不孕表现或反复流产,术后有生育要求;(5)性生活规律。排除标准:(1)合并恶性肿瘤者;(2)伴有内分泌系统疾病、盆腔炎症者;(3)子宫腺肌病患者;(4)心、肝、肾等脏器发生严重病变者;(5)配偶生育功能障碍者。

1.2 方法

(1)手术方式:经腹组施以经腹子宫肌瘤剔除术治疗,手术体位采取仰卧位,常规消毒、麻醉后选择腹直肌纵行切口入路。随后以血管钳夹起两侧附件,明确病灶大小、部位等情况。之后以单机电刀进行肌瘤表面的切开处理,完成病灶切除之后电凝止血,并以 2-0 可吸收线缝合子宫,术后常规抗生素预防感染。腹腔镜组则采用腹腔镜子宫肌瘤剔除术,以脐孔、麦氏点以及反麦氏点作为手术操作路径,建立 CO₂ 气腹,维持腹内压 12 mmHg 左右。随后取腹腔镜探头,以脐上 1 cm 作为置入点置入,探查病灶部位及其周围组织状况。之后钳夹肌瘤,借助双极电凝切开肌瘤,以分离钳分离两侧纤维结缔组织。待上述操作完成之后电凝止血,术后处理操作与经腹组一致。(2)围术期观察:统计所有患者的手术疗效指标,包括手术时间、术中出血量、肛门恢复排气时间、住院时间。观察所有患者术后出血、感染等并发症发生情况。(3)随访及分组:所有患者出院后均对其进行为期 1 年的随访,方式为门诊复查或电话随访,统计 1 年内妊娠情况,并据此将 80 例患者分为妊娠组和未妊娠组。(4)基线资料采集:通过医院病历系统收集所有患者的基线资料,主要内容涵盖下述几项:① 年龄;② 不孕年限;③ 肌瘤类型;④ 肌瘤数目;⑤ 肌瘤最大直径;⑥ 肌瘤是否穿透宫腔。

1.3 统计学处理

运用 SPSS 22.0 软件分析本研究数据。计量资料均符合正态分布,以($\bar{x}\pm s$)表示,开展 t 检验。计数资料以[n(%)]表示,进行 χ^2 检验。以多因素 Logistic 回归分析术后妊娠率的影响因素。检验水准为 $\alpha=0.05$ 。

2 结果

2.1 两组手术疗效指标对比

在术后失血量、肛门恢复排气时间以及住院时间方面比较,腹腔镜组均优于经腹组($P<0.05$),而两组手术时间比较无统计学差异($P>0.05$),见表 1。

表 1 两组手术疗效指标对比($\bar{x}\pm s$)

Table 1 Comparison of surgical efficacy indexes between the two groups($\bar{x}\pm s$)

Groups	n	Operation time(min)	Postoperative blood loss(mL)	Anal recovery exhaust time(h)	Hospital stay(d)
Transabdominal group	40	80.42±10.35	90.42±13.45	24.51±3.22	4.66±1.23
Laparoscopy group	40	78.59±11.23	127.25±24.48	31.70±4.16	5.71±1.44
t	-	0.758	-8.339	-8.644	-3.507
P	-	0.451	0.000	0.000	0.001

2.2 两组术后并发症发生率及妊娠率对比

腹腔镜组术后并发症发生率低于经腹组($P<0.05$),两组

术后妊娠率对比不明显($P>0.05$);见表 2。

表 2 两组术后并发症发生率及术后妊娠率对比 [n(%)]

Table 2 Comparison of postoperative complication rate and postoperative pregnancy rate between the two groups [n(%)]

Groups	n	Postoperative complication rate	Postoperative pregnancy rate
Transabdominal group	40	1(2.50)	31(77.50)
Laparoscopy group	40	7(17.50)	30(75.00)
χ^2	-	5.000	0.069
<i>P</i>	-	0.025	0.793

2.3 影响子宫肌瘤剔除术患者术后妊娠率的单因素分析

随访结果显示:出院后 1 年内 80 例子宫肌瘤剔除术患者中妊娠 61 例、未妊娠 19 例。经单因素分析可得:年龄、肌瘤数

目和术后妊娠有关($P<0.05$);而不孕年限、肌瘤类型、肌瘤最大直径以及穿透宫腔与否和术后妊娠无关($P>0.05$),见表 3。

表 3 影响子宫肌瘤剔除术患者术后妊娠率的单因素分析 [n(%)]

Table 3 Univariate analysis of postoperative pregnancy rate in patients with myomectomy [n(%)]

Factors		Non pregnant group (n=19)	Pregnant group (n=61)	χ^2	<i>P</i>
Age(years)	<35	7(36.84)	43(70.49)	6.999	0.008
	≥ 35	12(63.16)	18(29.51)		
Infertility years(years)	<3	9(47.37)	42(68.85)	2.894	0.089
	≥ 3	10(52.63)	19(31.15)		
Myoma type	Subserosal myoma	2(10.53)	8(13.11)	0.125	0.726
	Intramural myoma	14(73.68)	43(70.49)		
	Submucous myoma	3(15.79)	10(16.39)		
Myoma numbers	Single shot	5(26.32)	34(55.74)	5.020	0.025
	Multiple	14(73.68)	27(44.26)		
Maximum myoma diameter(cm)	<5	11(57.89)	32(52.46)	0.172	0.678
	≥ 5	8(42.11)	29(47.54)		
Penetrated the uterine cavity	Yes	3(15.79)	10(16.39)	0.004	0.950
	No	16(84.21)	51(83.61)		

2.4 影响子宫肌瘤剔除术患者术后妊娠率的多因素 Logistic 回归分析

以子宫肌瘤剔除术患者术后妊娠与否为因变量,赋值如下:妊娠=0,未妊娠=1。以年龄以及肌瘤数目为自变量,赋值如

下:年龄<35 岁=0,≥ 35 岁=1;肌瘤单发=0,多发=1。经多因素 Logistic 回归分析发现:年龄≥ 35 岁以及肌瘤多发是子宫肌瘤剔除术患者术后未妊娠的危险因素($P<0.05$),见表 4。

表 4 影响子宫肌瘤剔除术患者术后妊娠率的多因素 Logistic 回归分析

Table 4 Multivariate Logistic regression analysis of influencing pregnancy rate of after patient with myomectomy

Factors	β	S.E.	Wald χ^2	<i>P</i>	OR	95%CI
Age≥ 35 years	1.485	0.341	21.205	0.000	2.142	1.510~4.120
Multiple myoma	1.372	0.274	10.378	0.000	1.689	1.230~3.487
Constant	1.194	0.105	6.794	0.002	1.451	-

3 讨论

迄今为止,关于子宫肌瘤的具体病因以及发病机制尚未彻底阐明,可能与正常基层细胞突变以及性激素和局部生长因子之间的相互作用有关^[10-12]。子宫肌瘤剔除术是有生育要求子宫

肌瘤患者的首选治疗方案,该治疗方式不但可保留患者的生育能力,同时有助于子宫生理功能的维持,保持盆底解剖结构的完整性,在维持患者术后身心健康方面发挥着至关重要的作用^[13-15]。子宫肌瘤的外科治疗手段以腹腔镜与开腹手术为主,其中传统经腹手术会对患者造成较大的创伤,极易发生一系列并

发症,继而不利于患者的早日康复。而腹腔镜具有创伤较小以及术后并发症发生风险较低等优势,可促进患者的早日康复^[16-18]。然而,腹腔镜术式治疗过程中需应用双极电凝和建立CO₂气腹,加之术中需采用葡萄糖溶液进行多次冲洗,极易引起子宫内膜损伤,导致子宫内膜容受性受影响,最终影响患者的术后妊娠^[19,20]。由此,本文通过比较上述两种术式应用于子宫肌瘤治疗中的效果,以期临床治疗方案选择提供依据。

本文结果发现,在术后失血量、肛门恢复排气时间以及住院时间方面比较,腹腔镜组均优于经腹组。这在既往相关研究中得以佐证^[21,22],提示了腹腔镜子宫肌瘤剔除术可减少术中失血量,促进子宫肌瘤患者的术后康复。分析原因,腹腔镜术式切口较小,对患者造成的创伤较小。然而,张晖等人^[23]的研究报道发现,腹腔镜子宫肌瘤剔除术的手术时间长于开腹子宫肌瘤剔除术,这和本研究结果存在一定的差异。分析原因,随着近年来腹腔镜技术的飞速发展,医生的相关手术操作技能日益提升,从而更有利于手术的顺利完成。此外,在术后并发症发生率方面比较,腹腔镜组低于经腹组;但在术后妊娠率方面比较,两组差异不明显。究其原因,可能和腹腔镜术式可有效避免对患者造成不必要损伤有关^[24,25]。同时,两种术式均可实现对病灶的有效切除,加之临床相关技术的日益完善,其对患者生殖系统功能的影响程度均已降低至最小,因此,两组患者的妊娠结局相当。此外,本文经多因素 Logistic 回归分析发现年龄 ≥ 35 岁以及肌瘤多发是子宫肌瘤剔除术患者术后未妊娠的危险因素。即随着年龄的增长以及肌瘤数目的增多,子宫肌瘤患者术后妊娠难度增加。其中主要原因可能在于:女性的生理机能随着年龄的增长不断降低,特别是35岁之后的女性,其卵巢内卵泡数量显著减少,加之对促性腺的反应敏感性下降,从而可能影响妊娠^[26-28]。肌瘤数目的增多,子宫肌瘤剔除术中所剔除的肌瘤数目亦增加,从而导致子宫切口增加,术后子宫周围、宫腔内粘连风险增加,进一步对术后生育功能造成不利影响,最终降低术后妊娠率^[29]。然而,蒋晓敏等人^[30]的研究结果发现肌瘤数目和子宫肌瘤剔除术后妊娠结局无关,导致两项研究结果不同的主要原因可能和纳入对象年龄跨度以及样本量差异有关。

综上所述,无论是腹腔镜术式亦或是经腹术式,其对子宫肌瘤患者的妊娠结局影响程度相当,其中腹腔镜术式可促进患者术后康复,同时减少并发症的发生。此外,随着年龄的增长以及肌瘤数目的增多,子宫肌瘤患者术后妊娠难度增加,值得临床关注。

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