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Original Article

Uterine Sarcomas in Patients Undergoing Surgery for Presumed Leiomyomas: 10 Years' Experience

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ABSTRACT **Study Objective:** To find the incidence of sarcomas in patients undergoing surgery for presumed leiomyomas.
Design: Retrospective study (Canadian Task Force classification II-3).
Setting: Paul's Hospital, Centre for Advanced Laparoscopy and Infertility, Kochi, India.
Patients: All women who underwent total laparoscopic hysterectomy (TLH), laparoscopic myomectomy (LM), and hysteroscopic myomectomy (HM) at Paul's Hospital for presumed leiomyomas from January 1, 2004 to December 31, 2014 that were then diagnosed as sarcomas on histopathologic examination.
Interventions: TLH, LM, and HM.
Measurements and Main Results: A total of 2678 patients underwent TLH, LM, and HM at Paul's Hospital for presumed leiomyomas from January 1, 2004 to December 31, 2014. Five patients were diagnosed as leiomyosarcoma and 3 patients as endometrial stromal sarcoma on histopathologic examination. Women's ages ranged from 12 to 53 years. Histopathologic diagnosis of leiomyosarcoma was made in 3 patients from the TLH group and 2 patients from the myomectomy group. Two patients from the TLH group and 1 patient from the myomectomy group were diagnosed as endometrial stromal sarcoma on histopathologic examination. The incidence of uterine sarcomas (leiomyosarcoma and endometrial stromal sarcoma) in patients undergoing surgery for presumed leiomyomas was found to be .29% (1 in 335 patients) in our study.
Conclusion: Over a period of 10 years (2004–2014), the incidence of uterine sarcomas in patients undergoing surgery for presumed leiomyomas was found to be .29% in our study. Journal of Minimally Invasive Gynecology (2015) ■, ■–■

Keywords: Endometrial stromal sarcoma; Hysteroscopic myomectomy; Laparoscopic myomectomy; Leiomyosarcoma; Sarcoma; Total laparoscopic hysterectomy

Power morcellation, first introduced in 1993, has become a common technique for resection of uterine leiomyoma and tissue extraction in minimally invasive surgery [1,2]. This technique is associated with increased risk of spreading undiagnosed cancer, causing diffuse leiomyomatosis [3–6]. This technique has recently become scrutinized worldwide because of the risk of unintended morcellation of uterine sarcoma in cases operated on for presumed leiomyoma [7]. Traditionally, the incidence of leiomyosarcoma (LMS) has been quoted as 1 in 1000, but recent publications have quoted the incidence as 1 in 350 to 1 in 500 [7].

We have been offering minimally invasive surgery (myomectomy and hysterectomy) for symptomatic myomas for the last 20 years. The aim of the study is to identify the incidence of the uterine sarcoma, LMS, and endometrial stromal sarcoma (ESS) and their follow-up in these women.

Methods

This is a retrospective study of women who underwent total laparoscopic hysterectomy (TLH) and laparoscopic myomectomy (LM) or hysteroscopic myomectomy (HM) for presumed uterine leiomyomas from January 1, 2004 to December 31, 2014 at Paul's Hospital, an advanced laparoscopy and infertility center in Kochi, India. This hospital is a referral center for advanced laparoscopic surgeries. All women who underwent TLH, LM, and HM for

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Table 1

Details of patients subsequently diagnosed with sarcomas: TLH group

Case no.	Age (yr)	Complaints	Sonography	Type of surgery	Diagnosis (histopathology)	Type of morcellation	Specimen weight (g)	Follow-up
1	51	Heavy menstrual bleeding	Enlarged, multiple myomas 6–8 cm	TLH with bilateral salpingectomy (both ovaries conserved) (2005)	LMSsarcoma	Vaginal morcellation	1100	Laparotomy with BSO, chemotherapy Alive
2	53	Heavy menstrual bleeding	Uterus enlarged with myoma 6 × 7 cm (type 4)	Total laparoscopic hysterectomy with left salpingo-oophorectomy (2008)	LMSsarcoma	Vaginal morcellation	200	Chemotherapy and radiation Alive
3	49	Abdominal pain	Uterus enlarged with multiple myomas: posterior wall myoma 6.9 × 5.2 cm (type 6) and anterior wall myoma 3.6 × 2.9 cm	TLH with bilateral salpingectomy (2013)	Low-grade endometrial stromal cell sarcoma	Vaginal morcellation	300	Bilateral oophorectomy after 1 month Alive
4	46	Dysmenorrhea	Uterus enlarged with myoma of 8 × 7 cm (types 2–5)	TLH with bilateral salpingectomy (both ovaries conserved) (2014)	LMSsarcoma	Vaginal morcellation	700	Chemotherapy and radiation Alive
5	36	Heavy menstrual bleeding	Uterus, enlarged with anterior wall myoma 7.2 × 5.3 cm (types 2–5) and cervical myoma 6 × 3 cm	TLH with right salpingo-oophorectomy with left salpingectomy (left ovary conserved) (2014)	Stromal cell sarcoma	Vaginal morcellation	300	Did not receive any surgical treatment Alive

BSO = bilateral salpingo-ophorectomy; LMS = leiomyosarcoma; TLH = total laparoscopic hysterectomy.