

Histopathological Spectrum of associated Gynaecological Lesions in patients with Leiomyoma

¹Dr. N. Jeyalakshmi Devi, ²Dr. R. Thangam, ³Dr. Veeraraghavan, ⁴Dr. Brihadisvarar, ⁵Dr. N.Andal

¹Professor, ²Post graduate, ^{3,4}Assistant Professor, ⁵Professor and HOD

Department of Pathology, Government Kilpauk Medical College

***Corresponding Author:**

Prof. Dr. N. Jeyalakshmi Devi

Professor and HOD, Department of Pathology, Government Medical College, Thiruvannamalai

Type of Publication: Original Research Paper

Conflicts of Interest: Nil

Abstract

Uterine leiomyomata are the most common benign tumours in women presenting with abnormal uterine bleeding (AUB). Unopposed estrogen stimulation is postulated to be a common etiological factor in the occurrence of Leiomyoma, Endometrial hyperplasia and Endometrioid carcinomas. This was a retrospective study undertaken to analyse the associated histopathological lesions in uterine corpus, cervix, ovaries and fallopian tubes in patients with Leiomyoma. Out of 405 hysterectomy and myomectomy specimens studied, Leiomyoma was most common in 40-50 years (60%) and the most common presenting symptom was heavy menstrual bleeding (92.8%). On Histopathological examination, Adenomyosis was seen in 28.3% cases followed by Benign Endometrial polyp in 4.69% and disordered proliferative endometrium 2.96% along with two cases of Endometrioid carcinomas (0.49%) and 5.43% of Leiomyoma had degeneration. Rare case of Leiomyosarcoma misdiagnosed as Leiomyoma preoperatively was reported. All had chronic nonspecific ecto and endocervicitis along with a case of HSIL. HPE of fallopian tube revealed Salpingitis in 25.4%, Hydrosalpinx in 3.45% and endometriosis in 1.48%. A rare incidental case of High grade Serous Carcinoma fallopian tube was also diagnosed. HPE of ovaries showed two cases of non-neoplastic endometriotic cyst (0.49%). Benign tumours associated were Serous cystadenoma, Mucinous cystadenoma, Brenner tumour, Fibrothecoma and Mature cystic teratoma along with one case of Adult granulosa cell tumour.

This study highlights the varied histopathological spectrum of lesions in the adjacent foci of Leiomyoma in uterus, cervix, fallopian tube and ovaries; hence a thorough and meticulous histopathological examination is mandatory in arriving at an early accurate diagnosis thereby preventing morbidity and mortality.

Keywords: Leiomyoma, hysterectomy, leiomyosarcoma, High grade serous carcinoma fallopian tube

Introduction

Uterine Leiomyomata are the most common benign tumors occurring in women often presenting as abnormal uterine bleeding[1]. Unopposed estrogenic stimulation is postulated as a common etiological factor in the occurrence of Leiomyoma[2], Endometrial hyperplasia, Endometrioid carcinomas, Adult Granulosa cell tumors and Thecomas of ovary. This study emphasizes on the genital pathologies associated with Leiomyoma.

Objectives

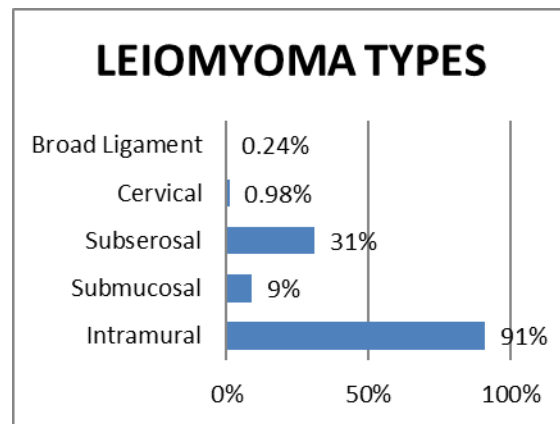
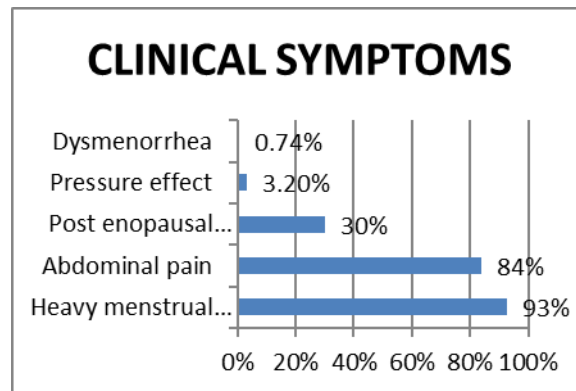
The study aims to analyze the various histopathological lesions in uterine corpus, cervix, ovaries and fallopian tubes in patients with Leiomyoma and also to correlate with the clinical presentation.

Materials And Methods

A Retrospective cross sectional study after retrieving the hospital case files was conducted for patients admitted from January 2019 to September 2021(2 years and 9 months) in Government Kilpauk Medical college. Abdominal hysterectomy, vaginal hysterectomy, Lap Assisted Vaginal hysterectomy and Myomectomy specimens were included. Clinical details were analysed along with review of H and E slides and Histopathological examination findings were compiled and analyzed.

Results

Out of 405 cases, Leiomyoma was the most common benign tumor in 40-50 years in 243 cases (60%) and the most common presenting symptom was heavy menstrual bleeding in 376 cases (92.8%) followed by abdominal pain in 340 cases (84%) and Post-menopausal bleeding in 121 cases (30%). Pressure effects were seen in 13 cases (3.20%) and dysmenorrhea in 3 cases (0.74%).



166 cases (41%) had solitary leiomyoma and 239 (59%) cases had multiple leiomyomas. 91% (368 cases) of Leiomyomas were intramural. Submucosal Leiomyomas were seen in 36 cases (9%) followed by subserosal in 125 cases (31%) and cervical in 4 cases (0.98%). One case of Broad ligament fibroid was seen (0.24%). Proliferative endometrium (71%) was the predominant endometrial phase. 5.43% (22 cases) of Leiomyomas had degenerative changes, the most common being Hyalinization (4.4%) followed by myxoid degeneration (0.74%) and calcification (0.24%).

Adenomyosis (28.3%) was the commonest endometrial pathology, followed by Benign Endometrial polyp in 4.69% cases and Disordered proliferative endometrium in 2.96% cases. Two cases of Endometrial Endometrioid carcinomas (0.49%) had associated Leiomyoma. A rare case of Leiomyosarcoma misdiagnosed as Leiomyoma preoperatively in a 75 year old female patient was reported. Chronic non specific cervicitis was seen in almost all cases. One rare case of cervical lipoleiomyoma was diagnosed. One case of HSIL was diagnosed incidentally. HPE of fallopian tube revealed Salpingitis in 25.4% (103 cases), Hydrosalpinx in 3.45

% (14) and endometriosis in 1.48 % (6). A rare incidental case of primary High grade Serous carcinoma of fallopian tube in a 43 year old patient with AUB-L was also diagnosed. HPE of ovaries showed two cases of non-neoplastic endometriotic cyst (0.49%). Benign tumours associated were 8 cases of Serous cystadenoma(1.96%), One case of each of Mucinous cystadenoma, Brenner tumour, Fibrothecoma and Mature cystic teratoma. One case of Adult granulosa cell tumour was also reported.

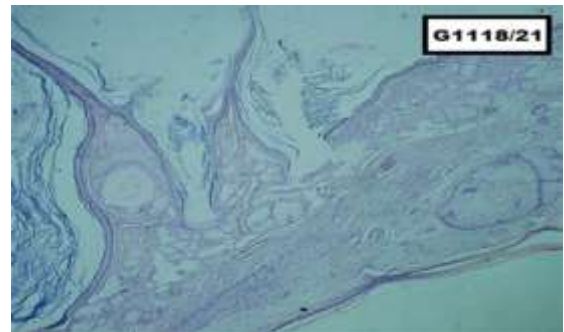
GENITAL PATHOLOGIES ASSOCIATED WITH LEIOMYOMA	NUMBER	PERCENTAGE
Endometrial Pathology		
Adenomyosis	115	28.3%
Benign Endometrial polyp	19	4.69%
Disordered proliferative Endometrium	12	2.96%
Endometrial hyperplasia without atypia	1	0.2%
Endometrial carcinoma	2	0.49%
Uterine smooth muscle pathology		
Adenomyoma	4	0.98%
Leiomyosarcoma	1	0.24%
Tubal Pathology		
Salpingitis	103	25.4%
Hydrosalpinx	14	3.45%
Endometriosis	6	1.48%
Serous carcinoma-High grade	1	0.24%
Cervical pathology		
HSIL	1	0.24%
Lipoleiomyoma	1	0.24%

Ovary		
Endometriotic cyst	2	0.49%
Benign Serous cystadenoma	8	1.96%
Benign mucinous cystadenoma	1	0.24%
Benign mature cystic teratoma	1	0.24%
Benign Brenner tumour	1	0.24%
Fibrothecoma	1	0.24%
Adult Granulosa cell tumour	1	0.24%

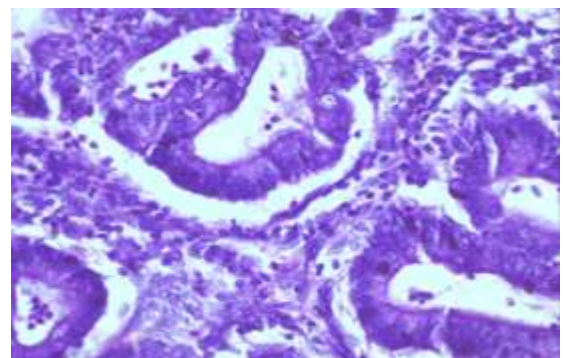
FINDINGS	PRESENT STUDY (n=405)	GEETHAMAL A et al (n=820)	R.GOWRI SANKAR etal (n=1200)	RIZVI et al (n=184)
AGE	41-50 years	31-50 years	41-50 years	41-50 years
SYMPTOMS	Heavy menstrual bleeding	HMB	HMB	HMB
LOCATION OF LEIOMYOMA	Intramural - 91%	48.9%	73.09%	-
	Subserosal – 31%	15.3%	14.75%	
	Submucosal- 9%	2.9%	12.16%	
	Cervical- 0.98%	8.29%		

	Broad ligament-0.24%	1.58%		
MENSTRUAL PHASE	Proliferative-69% Secretory-29.8% Atrophic-1% Endometrial hyperplasia 0.2%	50.17%	-	-
MOST COMMON ASSOCIATED LESION	Adenomyosis	Adenomyosis	-	Adenomyosis

MATURE CYSTIC TERATOMA OF RIGHT OVARY WITH LEIOMYOMA G1118/21



LEIOMYOMA WITH ENDOMETRIAL ENDOMETRIOID CARCINOMA G1074/21



Discussion

Leiomyomas are very common benign uterine neoplasms. The leiomyoma containing uterus expresses high levels of estrogen receptors, a factor which may be related to the pathogenesis of other genital lesions which may occur in nearby foci of cervix, fallopian tube and ovaries.

In our study of 405 cases of hysterectomy specimens, although the primary indication of surgery was Fibroid uterus, several incidental and interesting findings like Endometrial Carcinoma (0.49%), Leiomyosarcoma (0.24%), High grade Serous Carcinoma of Fallopian tube (0.24%) were also diagnosed. This study has studied a spectrum of varied pathologies in hysterectomy specimens associated with leiomyoma.

The most common clinical symptom was heavy menstrual bleeding in most women (92.8%) a scenario very similar to the study by Geethamala et al [3] and Radika et al [4]. Proliferative endometrium was seen in 71% of cases which was in accordance with several other similar studies by Gowrishankar et al [5] and Geethamala et al [3]. Among the endometrial disorders associated with Leiomyoma, Adenomyosis was the commonest (28.3%), which was in concordance with Rizvi et al [6]. A similar study by Kanter, Klawans and Bauer reported adenomyosis in 52% of their fibromyoma cases [7]. Adenomyoma was also seen along with Leiomyoma. Chronic non specific cervicitis was the most common cervical pathology in our study similar to Talukder et al [8]. Salpingitis was seen in 25.4%

Associated neoplastic lesions were mostly benign, the most common being Benign Serous cystadenoma of the ovary. Other neoplasms include benign Mucinous cystadenoma, Mature cystic teratoma, benign Brenner tumour, Fibrothecoma and Adult Granulosa cell tumour were also reported.

This study emphasizes on the importance of rare but significant associated pathological lesions which can occur in patients with Leiomyoma. An extensive and a meticulous histo pathological examination is mandatory for arriving at an early and prompt diagnosis. An incidental High grade serous carcinoma of fallopian tube was identified in a patient with AUB-L which was brought to the notice

of clinician. A rare case of Leiomyosarcoma was detected histopathologically in a patient clinically diagnosed as Leiomyoma. Thus, all these rare diagnoses emphasises the need for diligent histopathological examination of all hysterectomy specimens.

Conclusion

This study highlights the varied histopathological spectrum of rare and interesting lesions associated with Leiomyoma in the adjacent foci of uterus, cervix, fallopian tube and ovaries. Hence a thorough and meticulous histopathological examination is mandatory in arriving at an early and accurate diagnosis which will certainly help in the correct management of the patients thereby increasing their survival.

Acknowledgement

We would like to thank the Department of Obstetrics and gynecology, Government Kilpauk medical college for extending their support during this study. We would also thank Dr. Gomathi, Professor of Pathology, Dr. Sasikala, Associate professor of Pathology and Dr. Teleflo, Associate professor of Pathology for their guidance.

Reference

1. Rani VR, Sreeja & Thomas, Sindha. (2013). Leiomyoma, a major cause of abnormal uterine bleeding. *Journal of Evolution of Medical and Dental Sciences*. 2. 2626-2630. 10.14260/jemds/588.
2. Moro, Elisa et al. "The Impact of Hormonal Replacement Treatment in Postmenopausal Women with Uterine Fibroids: A State-of-the-Art Review of the Literature." *Medicina (Kaunas, Lithuania)* vol. 55,9 549. 30 Aug. 2019, doi:10.3390/medicina55090549.
3. Geethamala K, Murthy VS, Vani BR, Rao S. Uterine Leiomyomas: An ENIGMA. *J Midlife Health*. 2016 Jan-Mar;7(1):22-7. doi: 10.4103/0976-7800.179170. PMID: 27134477; PMCID: PMC4832891.
4. Radhika K, Gomathy E. Clinico-pathological correlation of AUB patients undergoing hysterectomy in a rural tertiary care centre. *Indian J Obstet Gynecol Res* 2019; 6(4):495-498.

5. Dr.Gowri Sankar Ramalingam, Dr. Anbu Lenin Kulandaivel, Dr. B. Krishnaswamy, & Dr. P. Viswanathan. (2019). Uterine leiomyomas: a demographical and clinico-pathological exploration in a rustic setup of Tamil Nadu: a comprehensive study. *Tropical Journal of Pathology and Microbiology*, 5(8), 600-606. <https://doi.org/10.17511/jopm.2019.i08.15>
6. Rizvi G, Pandey H, Pant H, Chufal SS, Pant P. Histopathological correlation of adenomyosis and leiomyoma in hysterectomy specimens as the cause of abnormal bleeding in women in different age groups in the kumaon region-A retrospective study. *J of Midlife health*.2013; 4:27-30
7. Kanter AE, Klawans AH, Bauer CP. A study of fibromyomas of the uterus with respect to the endometrium, myometrium, symptoms, and associated pathology. *Am J Obstet Gynecol*. 1936;32(2):183-93
8. Talukder SI, Haque MA, Huq MH, Alam MO, Roushan A, Noor Z et al. Histopathological analysis of hysterectomy specimens. *Mymensingh Med J*. 2007;16:81-4.