MODES OF PRESENTATION OF LEIOMYOMA OF UTERUS

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ABSTRACT

Objective *To find out the frequency, symptomatology and modes of diagnosis of leiomyoma of uterus.*

Study design *Descriptive study.*

Place & Duration of study *Department of Obstetrics & Gynaecology Baqai Medical University, Karachi, from June 2006 to May 2008.*

Patients and Methods *All patients with fibroid uterus managed during the study period were enrolled. Detailed personal and family history was taken and clinical examination done. Data collection included age, parity and symptoms. Menstrual pattern, previous and current was also noted. All routine investigations were carried out. Abdominal and pelvic examination were done to assess size, consistency and mobility of mass. Ultrasound was also done. Nulliparous patients were put on medical treatment and subsequently for induction of ovulation while myomectomy was performed on patients where the fibroid was the cause of infertility and in those with menstrual symptoms refractory to medical treatment. Patients who had multiple fibroids and completed their family, were offered hysterectomy.*

Results *A total of 100 cases wereenrolled into the study. Greater frequency was found in late reproductive and peri-menopausal years (70%) while 30% were seen in reproductive years. Menstrual symptoms were observed in 82% of cases while mass in abdomen found in 60%. Multiple fibroids were present in 46%. Ten percent cases were familial. Infertility was noted in 5% of the cases and 12% reported recurrent abortions. Diagnosis was mostly clinical and transvaginal sonography was required in 5% of the cases.*

Conclusions *Fibroids manifest in late reproductive years. They may remain asymptomatic however, menstrual symptoms are commonly seen depending upon size, location and number of fibroids. Diagnosis is simple by clinical examination and ultrasonography.*

Key words *Leiomyoma , Menorrhagia , Fibroid uterus.*

INTRODUCTION:

Uterine fibroid is the most common tumor found in women of reproductive age group.[1] Their occurrence increases with age. The clinical symptoms and severity usually depend upon the size, position and number of fibroids present. They are asymptomatic in more than 50% of the cases. Dysmenorrhea, abdominal pain, abdominal mass, pressure symptoms, infertility and repeated miscarriages may be the presenting symptoms.[2] Ultrasonography is a simple diagnostic modality for leiomyomas. Hysterosalpingogram, MRI, CT scan, hysteroscopy and endohysterosonography are the other important diagnostic aids. Diagnosis of myomas is mostly

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clinical because of characteristic nature of the tumor.[3] Management is either conservative or surgical, depending upon the site, size and symptoms of the tumor. This study was conducted to find out frequency and symptomatology of fibroid uterus in relation to age and parity. The modes of diagnosis was also studied.

PATIENTS AND METHODS:

This study was carried out in Obstetrics & Gynaecology Department Unit II at Baqai Medical University, Karachi. All cases of leiomyoma uterus, seen in the consultant OPD from June 2006 to May 2008 were included. A total number of 100 cases were enrolled. Detailed history and clinical examination were performed. Family history was also taken to find out familial pattern Data collection included age, parity and symptoms. Menstrual pattern, previous and current was also noted. Past medical and surgical history was obtained.

All routine investigations were carried out including detailed general physical examination. Abdominal examination was performed for size, consistency and mobility of mass. Bimanual pelvic examination was done to assess the size of uterus, consistency, contour and mobility of the tumor. Diagnosis was made on clinical examination and ultrasonography. Nulliparous patients were put on medical treatment and subsequently for induction of ovulation while myomectomy was scheduled and performed on the patient where the fibroid was the cause of infertility and in those patients who had menstrual symptoms refractory to medical treatment. Patients who had multiple fibroids and completed their family, were advised hysterectomy.

RESULTS:

A Total of100 cases were enrolled. Greater frequency was found in late reproductive and menopausal years (n-70). There were 30 cases in reproductive age group. Majority of cases (n-85) were multiparous and 15% nulliparous. Menstrual symptoms like menorrhagia was observed in 82 cases, inter-menstrual bleeding in 19 and irregular bleeding per vagina in 25 patients. Abdominal mass was noted in 60 cases, multiple fibroids were found in 46 and infertility in five patients. There were 12 cases with recurrent abortions. Family history of fibroids was found in 10 cases. Diagnosis was clinical in majority of the cases (n 82). Ultrasound was used as a part of routine investigations but was helpful in diagnosis in 30 cases. There were only 4 patients who required sophisticated investigations like MRI. Transvaginal sonography was required in 5 cases.

DISCUSSION:

Most uterine fibroids are harmless and do not cause symptoms and shrink with menopause. They cause infertility only in 2 to 10% of the cases.[4] Many women with fibroids have no trouble in getting pregnant, which is quite comparable with our study, where infertility was found to be 5%. If fibroids distort the wall of the uterus, it can prevent a fertilized egg from implanting in the uterus.[5,7] Common symptoms of fibroids include heavy or abnormal menstrual bleeding which may lead to anemia.

Fibroids usually cause pressure symptoms and pain in addition to menstrual symptoms which leads the patients to seek medical advice.[6] A random sampling of women, aged 35 to 49 years who were screened by self report, medical record review and sonography found that by the age 35, the incidence of myoma was 60% among African – American women; the incidence increases to over 80% by the age 50.[7,8,11] Caucasian women have an incidence of 40% by the age 35 and 70% by the age of 50. Myomas are monoclonal and 40% are chromosomally abnormal. Commonly found abnormalities include translocation between chromosomes 12 and 14, deletion of chromosome 7 and trisomy of chromosome 12.[7] More than 100 genes have been found to be up regulated or down regulated in myoma cells, including the sex and steroid associated genes, oestrogen receptors alpha, oestrogen receptor beta, progesterone receptor A, progesterone receptor B, growth hormone receptor, prolactin receptor and extra cellular matrix gene etc. Both oestrogen and progesterone appear to promote the development of myoma. Myomas are rarely observed before puberty and are most prevalent during the reproductive years.[8] Biochemical, clinical and pharmacologic evidence confirmed that progesterone is important in the pathogenesis of myoma. They may have increased concentration of progesterone receptors A and B compared with normal myometrium.[9] The use of progesterone (only injectible contraceptives) was inversely associated with risk of having myoma.[10,11,12]

First degree relatives of women with myoma have a 2.5 times increase risk of developing myoma.[8,13,14] Women reporting myoma in two first degree relatives are more than twice as likely to have strong expression of myoma related growth factor.[14,15] Risk of myoma increases 21% with 10 kgs. increase in body weight.[16,17] Obesity increases conversion of adrenal androgens to oestrogen and decreases sex hormone binding globulin.[18] The association between uterine myoma and infertility is still controversial. This could be due to other biological factors such as increased accumulation of inflammatory cells within fibroid tissue and corresponding endometrium that might impair fertility. Studies have shown that 5 to 10% of myomas are associated with infertility by different mechanisms.[19,21,10] Abnormal uterine bleeding is the single most common reason for gynaecological referrals by the general practitioners and thorough evaluation will reveal the presence of fibroid (sub-mucosal or intra mural).[16,17] Multiparous patients were found to have fibroids more frequently than nulliparous in their peri-menopausal years.[18]

The increased vascularity altered uterine contractility and increased endometrial surface area lead to excessive blood loss.[19] In our patients, abdominal pain due to regenerative changes was reported in 30% of the cases which is quite

consistent with the study by Hutchin. Myomas can usually be diagnosed by pelvic examination based on finding of an enlarged irregular shaped firm and non-tender uterus. Routine sonographic examination is not necessary when the diagnosis is almost certain although it is now included in our routine investigations. However, sub-mucous myomas often require saline-infusion sonography, hysteroscopy or MRI for definite diagnosis.[20] Trans-vaginal sonography is most readily available and least costly technique and is helpful in differentiating myomas from other pelvic conditions. MRI is an excellent method to evaluate the size, position and number of uterine myomas. Its advantage is that it has a low inter-observer variability in interpretation of images for sub-mucous myomas, intra-mural myomas and adenomyosis,[20,21] when compared with transvaginal sonography, saline infusion sonogram and hysteroscopy.

CONCLUSIONS:

Leiomyomas are the commonest tumors in female genital tract. Their occurrence increases with age and majority of them manifest in the late reproductive years. It is not surprising to detect uterine fibroids in women with history of infertility or reproductive wastage from time to time. The clinical symptoms and severity depend upon the size, position and number of fibroids present. Ultrasonography is the simple diagnostic test for leiomyoma. Only 5% of the cases require sophisticated techniques for diagnosis.

REFERENCES:

1. William H. Parker,M.D: Etiology, symptomatology & diagnosis of uterine myomas. J Reproductive Med 2007;87:725-36.
2. Buttram VC, Reiter RC. Uterine leiomyomata: Etiology, symptomatology & management. Fertil Steril 1981;36:433-45.
3. Walker CL, Stewart EA. Uterine fibroids; The elephant in the room. Science 2005;308:1589-92.
4. Cramer SF, Patel A. The frequency of uterine leiomyoma. Am J Clin Pathol 1990;94:435-8.
5. Kawaguchi K, Fujiis Konishi I, Nanbu Y, Nonogaki H, Mori T. Mitotic activity in uterine leiomyoma during the menstrual cycle. Am J Obstet Gynecol 1989;160:435-8.
6. Farquhar CM , Steiner CA. Hysterectomy rates in United States 1990-1997. Obstet Gynecol 2002;99:229-34.
7. Flake GP, Andersent D. Etiology and pathogenesis of uterine leiomyomas: A review. Environ Health Perspect 2003;111:1037-54.
8. Okolo SO, Gentry CC, Perrett CW, Maclean AB. Familial prevalence features. Hum Reprod 2005;20:2321-4.
9. Munro MG, Lukes AS. Abnormal uterine & underlying hemostatic disorders: Report of a consensus process. Fertil Steril 2005;84:1335-7.
10. Lippman SA, Warner M, Samuels S, Olive D, Vercellini P, Eskenazi B. Uterine fibroid & gynaecologic pain symptoms in a population based study. Fertil Steril 2003;80:1488-94.
11. Dueholm M, Lundorf E, Hansen ES, Ledertoug S, Olesen F. Accuracy of magnetic resonance imaging & transvaginal ultrasonography in the diagnosis, mapping & measurement of uterine myomas. Am J Obstet Gynecol 2002;186:409-15.
12. Dueholm M, Lundorf E, Hansen ES, Ledertoug S, Olesen F. Evaluation of uterine cavity with magnetic resonance imaging, transvaginal sonography, hystero sonographic examination & diagnostic hysteroscopy. Fertil 2001;76:350-7.
13. Pritts EA. Fibroid & infertility: A systematic review of the evidence. Obstet Gynecol Survey 2001;56:483-91.
14. Begum S, Khan S. Audit of leiomyoma uterus at Khyber teaching hospital Peshawar. J Ayub Med Coll 2000;4:75-7.
15. Rein MS, Barbieri RL, Friedman AJ. Progesterone: A critical role in pathogenesis of uterine myomas. Am J Obstet Gynecol 1995:172:14-8.
16. Lefebvre G, Vilos G, Allaire C, Defferey J. The management of uterine leiomyoma SOGC clinical practice guidelines128. J Obstet Gynecol Can 2003;25: 396-418.
17. Vollenhoven, B. Introduction: The epidemiology of uterine leiomyomas. Baillieres Clinical Obstet Gynecol 1998;2:169-76.
18. Luoto R, Kaprio J, Rutanen, E.M, Taipale P, Perola M, Koskenvuo M. Heritability & risk factors of uterine fibroids – The Finish twin cohort study Maturitas 2000;1:15-26.
19. Sharp HT. Assessment of new technology in the treatment of idiopathic menorrhagia & uterine leiomyomata. Obstet Gynecol 2006;108:990-1003.

20. National Institute for health & Clinical Excellence (N.I.C.E) . Magnetic resonance image-guided focussed ultrasound for uterine fibroids. International procedures consultation documents. London,UK: NICE 2007;109:20-7.

21 Miura S, Khan KN, Kitajima M, Hiraki K, Moriyama S, Masuzaki H et al. Differential infiltration of macrophages and prostaglandin production by different uterine leiomyomas. Human Reprod 2006;21:2545-54.