Original Article

Frequency of Primary Infertility in Woman Having Fibriod Uterus

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ABSTRACT

Objectives: To ascertain the frequency of primary infertility in women suffering from fibroid uterus.
Study Design: Observational analytical study of cohort type
Place and Duration of Study: Department of Obstetrics and Gynecology, Bolan Medical Complex Hospital, Quetta, from April 2009 to March 2010.
Patients and Methods: This prospective study was conducted in department of Obstetrics and Gynecology Quetta from April 2009 to March 2010.One hundred patients with fibroid uterus were studied. The age ranges from 20 - 50years.Detailed history were taken. In each patient thorough systemic examination was performed and patient with finding of medical disorder were excluded. All analysis and computation including data base were done by SPSS 10.
Results: During the study period, a total of one hundred women presented with fibroid uterus were observed. All the cases were within reproductive age group ranging from 20-50 years of age. Out of them 60% were between 20 – 30 years, 29% between 31 -40 years and 11% belongs to 41-50 years of age. Considering the symptoms, infertility was 14%.According the number of fibroids, in 72% of cases there were multiple fibroids. Single uterine fibroid was seen in 28% of cases.
Conclusion: Fibroid is relatively common in the patients in reproductive age and is exclusively responsible for infertility in 10% of cases. This study helps in establishing the relationship between fibroid uterus and primary infertility and by early detection with treatment, reducing the frequency of infertility in women having fibroid uterus.
Key Words: Fibroid uterus, primary infertility.

INTRODUCTION

Leiomyomas are benign tumors of smooth muscles occurring any where in the body, principally the uterus. Uterine cavity leiomyomas are indeed the most common pathological growth in the female genital tract, affecting about 40% of female population, menstruating beyond the age of 50[1].

Although Leiomyomas may remain symptom less in a small group of patients, they nevertheless cause morbid symptoms in a large population of patient's affected[2].

The common symptom with which patients with fibroid uterus come to the out patients is menorrhagia but a significant number of patients suffer from primary infertility[3]. Among the general effects symptoms of anemia are probably the most common, with patients presenting with weakness, breathlessness or both .Rare general effects include hypokalemia, hypoglycemia and polycythemia all of which are unproven to date[4].

Rarely Leiomyomas may present with pressure symptoms such as sensation of weight in pelvis, edema and varicosities of legs and bladder irritability[5].

Next to menstrual disturbance and infertility, Leiomyomas cause numerous complications during pregnancy. A pregnancy complicated by fibroid uterus occurs at a frequency of 1 in 2 women over the age of 35 years, half of whom are primi pared[6].

Abortion, low insertion of placenta, faulty presentation, obstructed labours; premature labours and abnormal uterine action all are the result of distortion of the endometrial cavity by fibroids[7].

The exact etiology of leiomyoma uteri is entirely unknown. It has been seen though that the growth of uterine fibroids is clearly dependant upon ovarian hormones, since fibroids almost never occur before puberty and after menopause and increase in size during may actually recede after menopause[8]. Other factors such as parity, age, social and genetic factors have also been postulated but never established with certainly[9].

The actual cause and effect relationship between fibroids and primary infertility has not been established but it is clear that fibroids or leiomyomas in the uterus interfere with implantation of the zygote in the uterus[10].

It is also theorized a uterus with fibroid is rendered infertile, due, perhaps to the interference of fibroids in the uterus with ovulation[11].

Infertility is commonly associated with myomas. The majority of patients are either nulliparous or of low parity[12]. The association between fibroid uterus and primary infertility is intriguing principally because each supports and augments the other in a vicious cycle .fibroid interfere with fertility and deterrence of pregnancy encourages leiomyomas. Whether both are merely associated with each other or related in a cause

and effect pattern is unclear but surely both are the cause of significant morbidity[13].

A woman suffering from fibroids and infertility is perhaps psychologically most susceptible to depression14. Primary infertility due to fibroids uterus is important also because it is one of the causes of infertility that can be surgically treated[15].

Fibroma is relatively common in the patients in reproduction age and is exclusively responsible for infertility[16].

Approximately 50% of the women with infertility and myomas become pregnant after myomectomy. Uterine leiomyoma constitute a major public health problem to the community in term of out patient attendance and hospital cost for surgery[17].

In order to evaluate the relationship between leiomyomas and primary infertility, which remains a subject of debate, I have tried to evaluate the impact of myomas on fertility in different conditions where myomas are implicated. Leiomyomas of the uterus are the most common solid pelvic tumors in women, and are present in 20 to 25% of women aged ≥ 35 years. Leiomyomas are associated with infertility, the causal relationship in this regard appearing to be more evident for sub mucosal myomas[18].

In deed, leiomyomas represent an increasing medical problem in women attempting to conceive at a more advanced age, when the rate of development of these lesions is also increased. Uterine fibroids have been reported in 27% of infertile women and 50% of women with unexplained infertility become pregnant after myomectomy. The age at which a first pregnancy occurs is increasing from the thirties to the forties. This increase and the recurrence rate of Leiomyomas from 15 to 30% points to the effect of myomas on the infertility[19].

The aim of present study was to ascertain the frequency of primary infertility in women suffering from fibroid uterus.

MATERIALS AND METHODS

It was an Observational analytical study conducted at Outpatient department of Gynecology and Obstetrics BMCH, Quetta. Over a period of One year from April 2009 to March 2010.

All the patients in this study were included on the basis of detailed history, clinical examination and investigations through out door patient department.

Detailed questions including age, parity, date of marriage, chief complaints, history of medical disorder and surgery was taken. . Each patient was examined thoroughly after complete and detail history. The fibroid was confirmed by ultrasonography. All analysis and computation including data base were done by SPSS version 10. Mean ± SD was computed for age. Analysis of different variables was performed using test of significance chisquare test.

RESULTS

During the study period, a total of one hundred women presented with fibroid uterus were selected on the basis of history, clinical examination and radiological findings that came through the out patient department of Bolan Medical Complex Hospital Quetta. All the women were counseled regarding the objective and different diagnostic procedures and the cost of procedures. Regarding the age, all the cases were within reproductive age group ranging from 20 years to 50 years of age. 60% were between 20-30 years, 29% were between 31-40 years, and 11% were 41-50 years of age group. The mean age was 33 year. (Table 1)

Considering the symptoms, primary infertility was 14%; menstrual disturbance was 52% mass abdomen 24%, lower abdominal pain 6%. Different type of pressure symptoms like frequency of micturation, chronic constipation and varicosity were 4 %.(Table2)

According to the number of leiomyomas, in 72% of cases there were multiple leiomyomas. Single uterine leiomyoma was seen in 28% of cases. (Table3)

We have done ovulation schedule, tubal patency, pelvic ultrasound and hystrosalphingiography in all patients having leiomyoma presenting with primary infertility.

After diagnosis every women were advised about the treatment.

Table No.1: Age Distribution of Cases. (n=100)

Age	Number	Percent
20-30 Years	60	60%
31-40 Years	29	29%
41-50 Years	11	11%

Table No.2: Presenting Symptoms (n=100)

Symptom	No. of Cases	%
Primary Infertility	14	14%
Menstrual abnormalities	52	52%
Pain	6	6%
Mass abdomen	24	24%
Pressure symptoms	4	4%

Shows significantly high proportion (P<o.oo1)

Table No 3: Number of Fibroids Presenting With Primary Infertility. (n = 100)

Number of fibroids	Number	%
Solitary	28	28%
Multiple	72	72%

Shows significantly high proportion (P<o.oo1)

DISCUSSION

Fibroma is relatively common in the patients in reproduction age and is exclusively responsible for infertility. Approximately 50% of the Women with infertility and myomas become pregnant after Myomectomy. Uterine leiomyoma constitute a major public health problem to the community in term of out patient attendance and hospital cost for surgery[20].

In order to evaluate the relationship between leiomyomas and primary infertility, which remains a subject of debate, I have tried to evaluate the impact of myomas on fertility in different conditions where myomas are implicated[21].

Leiomyomas of the uterus are the most common solid pelvic tumors in women, and are present in 20 to 25% of women aged ≥ 35 years. Leiomyomas are associated with infertility, the causal relationship in this regard appearing to be more evident for sub mucosal myomas. In deed, Leiomyomas represent an increasing medical problem in women attempting to conceive at a more advanced age, when the rate of development of these lesions is also increased.22Uterine fibroids have been reported in 27% of infertile women, and 50% of women with unexplained infertility become pregnant after myomectomy[23].

Few studies have been carried out in the gynaecological population of world. However in this study we assessed the condition in Bolan Medical Complex Hospital Quetta. It was an analytical observational type, carried out in out patient department and ward.

In this study frequency of primary infertility in uterine leiomyomas was 14%. Although the etiology is unknown but certain factors were determined which predispose to uterine leiomyoma; like the family history, chronic pelvic infection and ovarian cyst with anovulatory cycle. The common mode of presentation of patients with leiomyoma of uterus was either menstrual problem or infertility. In my study primary infertility rate was 14%. Infertility cases have been evaluated by semen analysis, presence of ovulation, pelvic ultrasound and hystrosalphingiography.

In this study I have found that 72% have multiple fibroids and 28% have solitary fibroid. The results of my study were comparable to a study carried out in Nigeria. Among 141 Nigerian women with uterine leiomyomas and 270 married gynaecological subjects matched for age and parity were studied[24].

Another study carried out in Paris where the frequency of infertility with myomas was 27.5% and a Dutch study where the frequency was 13%[25].

The role of myomectomy in subsequent fertility was evaluated. Of 50 patients undergoing myomectomy, 25 subsequently conceived. The most important correlation with subsequent fertility was surgical indication, 68 per cent of the women who underwent exploration for a pelvic mass having conceived, whereas only 16 per cent of women with a normal infertility evaluation conceived. In addition, women more than 30 years of age who became pregnant had fewer and smaller fibroid tumors than those who did not. It is concluded that myomectomy itself may decrease fertility, probably on the basis of adhesion formation and may be unjustified in women with otherwise negative infertility evaluations[26].

Another study conducted in the Department of Obstetrics-Gynecology of Swedish Hospital and in this series of 64 myomectomies describes the indications, technique, and efficacy of the procedure; the majority of operations were performed on large multinodular uteri. Indications included enlarging pelvic mass, menorrhagia, anemia, and pregnancy wastage in women who wished to preserve reproductive capability. Although infertility was not the primary indication in any case, 32 patients were nulligravid. Only 10 patients were parous and 14 had a history of spontaneous abortion or pregnancy wastage. The average age of the patients was 35.8 years (range, 27 to 47 years). There were no major complications and no patients received blood transfusions. Followup revealed three patients with recurrent tumors necessitating repeat procedures. Successful pregnancies have occurred in 40% of those attempting pregnancy. It is concluded that successful myomectomy can be performed in most patients regardless of uterine size, thereby preserving reproductive potential. The results of my study were not comparable to studies carried out in America showing the frequency of 5%[28].

After diagnosis and establishing a relationship between fibroid and infertility every woman was advised about the treatment.

CONCLUSION

Leiomyoma is relatively common in the patients in reproductive age and is exclusively responsible for infertility in 10% of cases. Therefore, presence of myoma in the uterus is a relevant factor in infertility cases. The conclusion of this study shows that the presence of myoma in the uterus is a significant factor in women with infertility and effort should be made for early detection of these myoma. There are lots of new techniques such as hysteroscopic resection, laparoscopic laser surgery and by these techniques uterine leiomyomas can be detected early and its correlation with infertility. These procedures are safe, less invasive and have fewer complications. The role of uterine fibroids remains controversial but seems to suggest that the presence of myoma decreases the pregnancy rates, while their removal increase the rate of pregnancies. Therefore, further trials with larger patients, samples are needed to verify the relation of

fibroids and primary infertility.

REFERENCES

1. Sultan CJG. Treatment of large fibroid uterus. Br J Obstetric Gynaecology 2001; 103: 994-6.
2. Lowe GD. Benign tumor of uterus. In: Edmond KD. Dew Hurst text book of gynecology for postgraduates. 6th ed. London: Blackwell science, 2007: 552-4.
3. Bhatla N. Tumors of the corpus uteri. In: Bhatla N, Jeff Coates R. Jeff Coate's principles of Gyneacology. 5th ed. London: Arnold, 2001: 473-80.
4. Monnier J, Landiaux B, vinateir D. Fibroma and pregnancy. Am J Obstetric Gynecology 2004; 81:99-104.
5. David L, Vollenhoven B, Weston G. uterine fibroids. In: Shaw WR, Soutter L. Shaw's Gynaecology. 3rd ed. London: Churchill Livingstone, 2003:47-92.
6. Campel S, Monga A. Gynaecology by Ten Teachers. 17th ed. London: Arnold, 2000: 115-8.
7. Latif R. Tumours of the uterus, tubes and ligaments. In: Latif R. Gynaecology. 3rd ed. Lahore: medical publishers; 2000:206-21.
8. Bhatla N. Tumours of the corpus uteri. In: Bhatla N, Jeff Coates R. Jeff Coate's principles of gynecology. 5th ed. London: Arnold; 2001: 471-80.
9. Akhter S. Review of current management protocol in uterine fibroid. J coll physician's surg Pak 2004; 5:208-11.
10. Adrian M. Surgical Anatomy. In: Shaw WR, Soutter L. Shaw's Churchill Livingstone; 2003: 23-35.
11. Moore K, Dalley A. Pelvis and perineum. In: Moore K, Dalley A. Clinically oriented anatomy. 4th ed. Philadelphia: Lippincott Williams & Wilkins; 2000:378.
12. Carola R, Harley J, Noback C. Reproductive system. In: Carola R, Harley J, Noback C. Human Anatomy & Physiology 2nd ed. London: Mc Graw Hill;2006: 921.
13. Sadler T. Urogenital system. In: Sadler T. Lang man's Medical Embryology. 8th ed. Philadelphia: Lippincott & Williams; 2000: 327-29.
14. Swiet M, Chamberlain G. Anatomy. In: Swiet M. Chamberlain G. Basic Science in Obstetrics and Gynaecology. 2nd ed. London: Churchill Livingstone; 2006:87-92.
15. Romano F, Blasi N. Transabdonimal sonohysterography, evaluation of submucous myomas. Obstet-Gynecol. 2005; 85: 42-7.
16. David L, Beverley V, Gareth W. Uterine fibroid. In: Shaw WR, Soutter L. Shaw's Gynaecology .3rd ed. London; Churchill living stones; 2003: 477-81.
17. Christopher P. Female genital tract .In: Ramzi S, Kumar V, Robbins S. Robbins Pathologic basis of disease.7th ed. New York: W.B Saunders; 2004: 1059.
18. Fredrick T. Female genetalia. In: John A. Anderson's pathology. 12th ed. Delhi: Jaypee brothers; 1998: 115-20.
19. Christopher P. Female Genital tract. In: Cotran R, Kumar V, Robbins S. Robbins Pathologic Basis of Disease7th ed. London: W.B. Sanders, 2004; 1033-89.
20. Miller N, Ludovici R. The origin and development of uterine fibroids. Am J Obstet Gynecol .2004; 76: 231-244.
21. David L, Beverley V, Gareth W. Uterine fibroids. In: Shaw WR, Soutter L. Shaw's Gynaecology 3rd ed. London: Churchill living stones; 2003: 480-81.
22. Lowe GD. Benign tumors of uterus. In: Edmond KD. Dew Hurst text book of gynecology for postgraduates. 6th ed. London: Black well science; 2008: 552-4.
23. Chohan A. Benign Diseases of Uterus. In: Chohan A. Fundamentals of Gynaecology. 1st ed. Lahore: MAR publishers; 2000: 239-41.
24. Davis JL. Uterine Leiomyoma in Pregnancy at a prospective study. Obstet- Gynecol 2002; 86: 127.
25. Hunt J, Wallawn E. Uterine Factors in infertility an overview: Clin Obstet Gynecol. 2005; 17:44-64.
26. Yoder IC, Hall DA, Hystrosalphingiography. Am J Obstet Gynecol 2006; 5: 675-83.
27. Durab K, Z Sofia. Hysterosolphugography in the evaluation of causes of female infertility. JCPSP 2003; 11:36-8.
28. Porozhanova V. Role of leiomyomas in infertility. J Am Assoc Gynecol Leprosc 2004; 6:441-5.

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