INTRODUCTION

Knowledge of the normal dimensions of the uterus is important for evaluating the health status of women and for forecasting the risk of infertility and recurrent pregnancy loss. This study was designed to find out the effect of fibroid in changing the uterine size and distortion of endometrium lining in peri- and pre-menopausal women. **Methods:** Forty-six pre- and peri-menopausal women presenting to Radiology Department, Sir Ganga Ram Hospital, and Lahore General Hospital, Lahore from October 2009 to January 2010 with complaints of heavy menstrual bleeding were included in the study. A transvaginal ultrasound or pelvic ultrasound was carried out to confirm the diagnosis of fibroids and taking measurements. 5 pre and 3 peri-menopausal women with no history of any disease were taken as control. **Results:** Uterine size in case of both pre- and peri-menopausal woman with fibroid was non-significantly increased. Mean size of fibroid was 3.87×3.84 Cm. Ultrasonography showed that the position of fibroid was either in anterior or posterior or post-fundal region in both groups of women. Mean endometrial thickness with and without fibroid was relatively same in pre-menopausal women. In peri-menopausal women endometrial thickness was slightly increased. Ultrasonography showed that fibroid pushing endometrium anterior and posterior site is more or less same but in some no effect on endometrium thickness was observed. **Conclusion:** Fibroid with a size of 3–3.5 cm cause a small change in the uterine size, distortion of endometrial lining in peri-menopausal women only. Further work is needed on large number of peri-menopausal women.

Keywords: uterus size, fibroid, endometrial thickness

EFFECT OF FIBROID IN CHANGING THE UTERINE SIZE, AND DISTORTION OF ENDO METRIUM LINING IN A GROUP OF PRE- AND PERI-MENOPAUSAL WOMEN

Munuzza Mir, Saima Amer*, Zaheer Alam*, Maimoona Ashraf**, Iftat Badar*, Rukshan Khurshid***, Beenish Azeem, Maria Batool*

Department of Anatomy, Fatima Jinnah Medical College, *Radiology, Sir Ganga Ram Hospital, **Gynaecology, PGMI/Lahore General Hospital, ***Biochemistry, Fatima Jinnah Medical College, Lahore, Pakistan

Background: Knowledge of the normal dimensions of the uterus and endometrial thickening are important for evaluating the uterine health and for forecasting the risk of infertility and recurrent pregnancy loss. Howev
Present study was carried out to find out the effect of fibroid in changing the uterine size, distortion of endometrium lining in a group of peri- and postmenopausal women.

MATERIAL AND METHODS
Total 46 women presenting to Radiology Department, Sir Ganga Ram Hospital, Lahore from October 2009 to January 2010 with the complaints of heavy menstrual loss were included in the study. A transvaginal ultrasound or pelvic ultrasound was carried out for the diagnosis of fibroids. With the uterus imaged in the longitudinal plan, uterine size and endometrial thickness were also measured at the thickest point between the two basal layers on the anterior and posterior uterine walls. Women with fibroids were divided into two groups, i.e., pre-menopausal (n=36) and peri-menopausal (n=10) groups. Normal uterine size without fibroids were also taken in another 5 pre-menopausal and 3 peri-menopausal women. Data were analysed using SPSS-15 and compared using Student’s t-test.

RESULTS
Thirty-six pre- and 10 perimenopausal women were included in the study. Another 8 women, 5 premenopausal and 3 perimenopausal, with no history of fibroids and <6 mm endometrial thickness were taken as controls. Premenopausal women with mean age 33 years had mean uterine cavity size 9.03×4.08×4.88 Cm. In premenopausal woman mean uterine cavity size with fibroid was non-significantly (p>0.05) increased, i.e., 9.30±5.61×5.83 Cm with the fibroid size 3.87±3.84. Mean uterine cavity size was 8.25×3.53×4.27 Cm in perimenopausal women with age 50 year. In the presence of fibroid, the size was non-significantly (p>0.05) increased to 8.16×4.55×6.48 Cm. Size of fibroid in perimenopausal women was 3.24×3.10 Cm. Ultrasonography showed that the position of fibroid was either in anterior or posterior or post-fundal region in both groups (Table-1).

Table-2 shows the comparison of endometrial thickness with and without fibroids in pre- and peri-menopausal women. Mean endometrial thickness with and without fibroid was more or less the same in premenopausal women (5.78 vs 5.76 mm). In perimenopausal women endometrial thickness was non-significantly (p>0.05) increased (5.76 vs 6.00 mm). Ultrasonography showed that fibroid pushing endometrium anterior and posterior site is almost the same, and in some cases no effect on endometrium thickness was observed.

DISCUSSION
Abnormal pre- and perimenopausal bleeding is common and accounts for much medical and surgical intervention. 12

Uterine size was increased due to the presence of fibroid in both pre- and perimenopausal women. However the size of fibroid in perimenopausal women was less as compared to the size of fibroid in case of premenopausal women. In both groups the position of fibroid was either in anterior or posterior, or post-fundal region. According to a study, 13 women with large subserosal fibroids, which develop on the outer covering of the uterus, may developed compressed fallopian tubes. This can cause a blockade in the fallopian tube, thereby blocking the passage of sperm and eggs. Subserosal fibroids can also distort the pelvic anatomy to such an extent that it becomes difficult for the fallopian tube to capture an egg at the time of ovulation. Because of their location inside the uterine cavity, submucous fibroids can cause fertility problems and miscarriages. 13

A study 14 reported that uterine cavity shape can vary dramatically. They observed a slight increase in total uterine length which may be due to endometrial cavity length and transverse fundal diameter. They related it with parity and age. 14 A group of workers reported that an apparently greater cavity length was seen in older and/or parous women, but the difference was not statistically significant. 14 We observed the same. Our study was in contrast to a study 16 that observed the mean uterus size as 8.66×4.96×4.06 Cm.

Another study observed that intramural and subserosal fibroids that do not disturb the uterine cavity have not been connected clearly to infertility. However, it was observed that when fibroids grow to be 5 Cm or larger, the risk of caesarean delivery increases. 17

In premenopausal women the endometrial thickness was not affected although the fibroid was present. On the other hand in perimenopausal women the presence of fibroid may increase the endometrial
thickness, i.e., from 5.25 to 6.0 mm. Our study is in contrast to a study who found endometrial thickness of 5.2 mm, with submucosal myomas for premenopausal women. Some workers have reported that endometrial thickness of 8 mm showed optimal sensitivity and specificity.  

Gull B et al found an association between uterine fibroids and increased endometrial thickness. They reported that thickening of the endometrium may indicate the presence of endometrial carcinoma. Some workers found mean endometrial thickness of 3.97 mm. It was reported that the endometrium responds to oestrogens, and this endometrial thickness may constitute a biomarker of oestrogen status in perimenopausal women.

CONCLUSION  
Fibroids of 3–3.5 Cm size cause a small change in the uterine size and distortion of endometrial lining in perimenopausal women. Further work is needed on larger number of perimenopausal women.

REFERENCES

Address for Correspondence:
Dr. Munazza Mir, Department of Anatomy, Fatima Jinnah Medical College, Lahore, Pakistan. Cell: +92-300-4210081
Email: drmunuzzamir@gmail.com