ABSTRACT AND KEY WORDS

ABSTRACT:

AIM:

To study the role of MRI in diagnosis and management of patients with various pelvic floor dysfunctions including pelvic organ prolapse, urinary and defecation difficulties.

OBJECTIVES:

➢ To study the changes in pelvic floor anatomy in women with pelvic floor dysfunctions.

➢ To study the effect of age and parity on pelvic floor anatomy in women with pelvic floor dysfunctions.

➢ To study the changes in pelvic floor anatomy after a course of pelvic floor exercises (kegel exercises).

STUDY DESIGN:

A Prospective study between September 2013 to September 2014 at Kilpauk medical college hospital, Chennai.
METHODS:

Patients presenting to Gynaec OPD with symptoms of pelvic floor dysfunctions are subjected to clinical examination and MRI. The changes in pelvic floor anatomy in each type of dysfunction is analysed in terms of H line (at rest and straining), M line (at rest and straining) and levator plate angle values. That is, the changes in levator hiatus dimension and descent of the pelvic organs in various degrees of prolapse are studied. Substratified analysis is done and mean diameters in each degree of prolapse is identified (chi square tests using cross tables). The patients who are diagnosed to have cystocele (if present along with the type), rectocele or enterocele are also compared in both clinical examination and MRI and the degree of correlation is measured (inter rater kappa). The changes in pelvic floor anatomy in terms of H line, M line and levator plate angle with respect to age and parity is studied. In patients I st and II nd degree prolapse the changes in anatomy in terms of H line, M line and levator plate angle are studied after a course of pelvic floor exercises (posthoc tests and paired t tests). The area under curve of ROC (Receiver operating curve) in each degree of prolapse is seen and the critical cut off value of the various anatomical parameters above which a patient develops a prolapse is calculated.
RESULTS:

90 with symptoms of pelvic floor dysfunctions were studied with clinical examination and MRI.

- With the area under curve interpretation of ROC (Receiver operating curve) with respect to clinical examination, with a sensitivity of around 90% it is found that levator hiatus width cut off at rest above 5 cm and at straining above 5.8 cm develop a clinical first degree prolapse clinically.

- M line straining with a sensitivity of 100% shows cut off more than 4.8 cm to develop a clinical prolapse.

- Similarly from ROC curve of various other MRI parameters, it is found that with almost 100% sensitivity with respect to clinical examination a levator plate angle of more than 44.4 degrees develop a clinical first degree prolapse.

- 5 patients of first degree prolapse who were not diagnosed clinically were picked up by MRI.

- In 7 patients with equivocal findings with regard to type of cystocele in clinical examination, MRI could identify the fascial defect and hence the type of cystocele and thus helped in site specific repair of cystourethrocele.

- MRI has also helped to differentiate high rectoceles and enteroceles.
Also the various anatomic changes in pelvic floor anatomy in women with pelvic floor dysfunctions were quantitatively measured and tabulated.

With increasing age there is an increase in mean values of levator hiatus width at straining and increase in descent of various organs. More so, there is also a statistically significant increase in the levator plate angle with increasing age.

With increasing parity there is an increase in mean values of levator hiatus width at rest and straining and increase in descent at straining. Also there is increase in levator plate angle with increasing parity though not statistically significant.

**CONCLUSION:**

Thus it is evident that MRI should be considered as a pretreatment planning tool when the physical findings are equivocal. MRI is not indicated for all patients with pelvic floor dysfunctions. Preferably MRI to be done for patients with pelvic floor dysfunctions who have equivocal or insignificant clinical findings, the cut off value above which a patient will have prolapse clinically having been calculated, early diagnosis can be made based on the anatomic changes and conservative management in terms of pelvic floor exercises may be considered to prevent greater degrees of prolapse and henceforth its surgical management.
KEY WORDS:

Pelvic floor dysfunctions, H line, M line, levator plate angle, Kegels exercises, cystocele, prolapse, rectocele, enterocele.