

# ETIOLOGICAL CONCEPTS OF LEIOMYOMA VAGINA

## REVIEW OF LITERATURE AND A CASE REPORT

by

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Benign and malignant tumours of the vagina are rare. Amongst the benign tumours of the vagina, there are reports of leiomyoma, fibroma, papilloma and myxoma. The present communication is a report of a patient with a leiomyoma of the vagina. This is the only recorded case of fibroma of the vagina among 29,064 O.P.D. patients and 12,733 gynaecological admissions during the past 15 years at the B.Y.L. Nair Hospital.

Quan and Birnbaum (1961) reviewed the world literature and found less than 250 cases. Since their paper, fewer than 50 additional cases have been reported.

### CASE REPORT

Mrs. S., 38 years old, para V, attended the gynaecological O.P.D. for pain in the abdomen of one year's duration. All her deliveries were normal and there were no urinary symptoms. She was of an average build and vaginal examination revealed a non-tender, rather elastic swelling of 8 cms. X 6 cms. in the anterior fornix (Fig. 1).

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The cervix was high up and far behind the swelling and the uterus was normal and felt separate from the mass (Fig. 2).

The appendages were normal. The mass was rounded, sessile and found stretching the anterior vaginal mucous membrane and situated about 4 cms. behind the external urinary meatus. It was thought to be a cervical fibroid, a Gartner's Duct cyst or a fibroma of the vagina.

Routine blood and urine examinations were normal. A cystoscopic examination of the bladder did not show any mass displacing the bladder wall and intravenous pyelogram also showed no abnormality of the urinary tract.

A longitudinal incision over the anterior vaginal wall in the region of the mass was made. With blunt and sharp dissection the mass was easily separated and enucleated (Fig. 3).

The bladder was sounded at this time and was found to be intact and away from the enucleation cavity and so was the cervix which was felt quite separate.

The tumour was elastic, solid and cut section showed a whorled appearance with smooth areas intervening.

Histopathology showed it to be leiomyoma undergoing hyaline degeneration.

### Discussion

**Incidence:** The rarity of this tumour can be considered by the fact that only nine cases were found at John Hopkins Gynaecology Laboratory which contains over 50,000 case specimens. (Benret and



Ehrlich 1941). The earliest case report of such a tumour was given by Denys de Leyden in 1733. The rarity of the condition at Nair Hospital has already been stressed.

*Age and Parity:* The majority of these tumours are found between the ages of 35 to 55 years, but a few have been reported at a younger age also. It has been reported to occur in an infants aged 1½ years, 2½ years and newly born girls by Phillips in 1899. Most of these tumours have been found in multiparous women, but an occasional example in a nullipara is also recorded.

*Clinical Features:* The majority of vaginal myomas are single and more than half of the tumours reported have been on the anterior vaginal wall, while about 1/4th are found over the posterior or lateral vaginal walls and very occasionally multiple. There is almost an equal distribution in the upper and the lower halves of the vagina. These growths are sessile, occasionally pedunculated and vary in size from 3-4 cms. to 20 cms. and the largest weighed 1450 gms. They behave like leiomyomas elsewhere and thus have been found to undergo degenerations like hyaline, cystic, myxomatous, sarcomatous, calcification and hematoma formation. The consistency of the tumour is described as firm to softish or cystic, depending upon the degeneration present.

The vaginal mucous membrane overlying the tumour is usually normal except when the growth is pedunculated and is protruding out of the vulva, when ulcers are noticed over it as reported by Jhaveri *et al* (1969). Gangrene of vaginal mucous membrane overlying the tumour was reported by Phillips 1899.

Although it appears very likely that tumours arising from anterior vaginal wall should have some urinary symptoms,

many authors like Bennet (1941) described a list of possible urinary complaints like urinary retention, dysuria, haematuria, pressure on one ureter leading to hydronephrosis and hydroureter. Leiomyomas of the upper half of the anterior vaginal wall are not associated with pressure on the urethra or the bladder and consequently are less likely to present with urological symptoms. In contrast, leiomyomas of the lower third of the anterior vaginal wall are intimately associated with the posterior aspect of the urethra and can be expected to present urological symptoms (Joseff, Adducci 1965). But going through the literature carefully we found complete lack of references to urinary symptoms. In our own case, with a tumour of considerable size there were no urinary symptoms. The patient had no difficulty in micturition and the cystoscopic examination revealed nothing abnormal. Marcus (1966) described a patient aged 53 years, para III, having stress incontinence but on scrutinizing her history one finds that the stress incontinence followed her first delivery 27 years before the actual symptoms of vaginal leiomyoma and that it had nothing to do with the vaginal myoma.

The tumour causes dyspareunia due to its size, while cases have been described where labour was obstructed necessitating forceps delivery or caesarean section (Moghissi 1960; Schonberg 1963; Kettle and Loefflar 1965) and even a rupture of the uterus followed labour (Cordaro 1905).

Other symptoms like lower abdominal pain, leucorrhoea, lump in the vagina, discomfort in the vagina and constipation have been noted. Prolapse of a pedunculated tumour may occur.

*Etiology and Histogenesis:* The cause



of fibromyomas of the vagina is as unknown as that of fibromyoma of the uterus. Uterine fibromyoma tends to develop in areas of stress between muscle zones or in areas liable to disturbances during development (Kettle, Loeffler 1965). Some authors feel that it arises from Mullerian and Wolffian duct remnants (Joseph Adducci 1965).

As far as the histogenesis of the tumour is concerned, it is usually believed to arise from embryonal rests or local artery musculature. Laffargue considered a perivascular etiology perhaps from histiocytes. It appeared more plausible to think that it arises from the smooth muscle fibres present in the vagina. Sections from different levels of the anterior and posterior vaginal walls from multiparous patients at operations as well as at autopsy were studied and showed an outer layer of interstitial and longitudinal muscle fibres incorporated in the mucous membrane.

The fact that it is grossly connected with the vagina and that it also grows towards the vagina, and does not displace the urinary organs makes one feel that its origin must be purely from muscle fibres of the vagina.

The fact that the majority of vaginal myoma cases have been found between ages of 36-50 years and particularly in multigravida is perhaps suggestive of some stress between the muscle bundles of the vagina during labour.

The fact that vaginal myomas except in the region of lower urethra do not cause any disturbance or displacement of the urinary organs and grow towards the lumen of the vagina favours the view that its origin must be from the muscle fibres of the vagina itself.

Although most cases are benign, two cases of sarcomatous change have been

reported (Tracy 1930 and Schram 1968).

#### *Diagnosis*

The diagnosis of vaginal myoma is simple but usually not suspected. Often it is mistaken for Gartner's duct cyst, particularly when there are cystic changes in a vaginal myoma. It is also mistaken for a cervical fibroid as the cervix is usually high and hidden behind the mass. The tumour has been found positive on transillumination when cystic changes have occurred, as in the two cases reported by Marcus.

The anterior vaginal wall fibroid has to be differentiated from cystocele, diverticulum of the urethra, sub-urethral cysts, Skene's duct abscess and pedunculated subserous uterine myoma and adenomyoma of vagina. The posterior vaginal wall fibroid has to be differentiated from rectocele, enterocele, inclusion cysts, Wolffian duct remnants and carcinoma of the vaginal wall.

*Treatment:* The tumour is usually enucleated easily like myoma elsewhere. All the reported cases so far show that the tumour grows towards the lumen of the vagina and does not bring about urinary symptoms contrary to expectation. Similarly, on enucleation one finds that the urinary tract is away from the enucleation cavity and is, therefore, out of danger.

#### *Summary*

The various views about the etiology and histogenesis of myoma of the vagina are discussed. In the light of the histology of the normal vaginal mucous membrane together with evidences put forward, it seems most likely that the tumour arises from the smooth muscle fibres of the vagina.

A case of anterior vaginal wall myoma

is described and the literature on the subject is reviewed.

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#### References

1. Asher, L. and Purandare, V. N.: J. Obst. & Gynec. India, 19: 630, 1969.
2. Bennett, H. G. Jr. and Ehrlich, M. M.: Am. J. Obst. & Gynec., 42: 314, 1941.
3. Cordaro, V.: Zbl. Gynak. 1: 762, 1905.
4. Dayal, Krishna, Mali, Saraswati and Mukerjee, Krishna: J. Obst. & Gynec. India, 18: 795, 1968.
5. Denys de Leyden (1733): as quoted by Farrell, D. M. and Abrams, J.
6. Farrell, D. M. and Abrams, J.: Am. J. Obst. & Gynec. 72: 455, 1956.
7. Jhaveri, A. A., Saraf, A. N. and Tal-  
sanja, B. C.: J. Obst. & Gynec. India, 19: 261, 1969.
8. Joseff, Adducci: J. Urology, 93: 255, 1965.
9. Kettle, M. J. and Loefflar, F. E.: Am. J. Obst. & Gynec. 92: 574, 1965.
10. Marcus, J. L.: J. Obst. & Gynec. Brit. Cwlth. 73: 10103, 1966.
11. Moghissi, K.: Obst. & Gynec. 15: 235, 1960.
12. Narayan Reddy, K. S.: J. Obst. & Gynec. India, 16: 342, 1966.
13. Phillips, Brit. J. 1: 262, 1899.
14. Posner, A. C. and Bosner, L. B.: Obst. & Gynec. 8: 681, 1956.
15. Quan, A. and Birnbaum, S. J.: Obst. & Gynec. 18: 360, 1961.
16. Sered, H., Phillips, E. A. and Foss, H. G.: Am. J. Obst. & Gynec. 71: 1362, 1956.
17. Smith, R. R.: Am. J. Obst. & Dis. Women, 45: 145, 1902.
18. Schonberg: Obst. & Gynec. 22: 234, 1963.
19. Schram: Obst. & Gynec. 12: 195, 1958.
20. Tracy, S. E.: Amer. J. Obst. & Gynec. 19: 279, 1930.

See Figs. on Art Paper IX