

## ADENOMYOSIS: A CLINICO-PATHOLOGICAL STUDY

By

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### SUMMARY

The diagnosis of adenomyosis is underestimated clinically as well as histopathologically. To find out the true incidence of adenomyosis and clinicopathological profile of women having adenomyosis, a prospective study was undertaken. One hundred successive women undergoing hysterectomy for various indications were studied. The incidence of adenomyosis was 15% by routine sections which increased to 25% by taking extra sections. This signifies that to rule out adenomyosis, extra sections should be taken in all cases of suspected DUB, adenomyosis and fibroid uterus. Maximum incidence of adenomyosis was seen in 4th and 5th decade of life and in multiparous women having 3 or more deliveries, 72% women had history of last delivery 10 years earlier. Most of the endometria showed proliferative phase or cystic hyperplasia. Leiomyoma was the commonest associated lesion. All these factors indicate prolonged action of estrogens uninhibited by progesterone leading to development of adenomyosis.

### Introduction

The diagnosis of adenomyosis i.e. internal endometriosis is usually underestimated clinically because of obvious difficulties in the diagnosis. The cases labelled as 'DUB' preoperatively may turn out to be those of adenomyosis histopathologically. But even histopathological diagnosis may be missed due to lack of taking adequate number of sections.

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### Material and Methods

To eliminate all these factors and find out the true incidence of adenomyosis and clinicopathological profile of women having adenomyosis, we undertook a prospective study in collaboration with the "Pathology Department". 100 successive women undergoing hysterectomy for various indications were studied. Their history and preoperative clinical findings were noted. After hysterectomy, every specimen of the uterus was weighed without tubes and ovaries.

Routinely only 1 random section is taken from the uterus which may not be

of full thickness. In our study, alongwith routine sections, 6 extra sections were taken from various predetermined sites viz. right, mid and left anterior walls and right mid and left posterior walls including the whole thickness of myometrium. Adenomyosis was diagnosed if endometrial glands and stroma were seen one or more high power fields away from the junction of endometrium and myometrium.

#### Results and Discussion

According to Bird *et al*, by taking extra sections, the incidence of adenomyosis almost doubles. In our study, by taking routine sections the incidence was found to be only 15%. With extra sections the incidence increased to 25%. In a study carried out by Vora *et al* in 1979, with routine sections the incidence was 22% and with extra sections it increased to 60%. Thus it is evident that extra sections should be taken in suspected cases of DUB, adenomyosis and fibroid uterus. By doing so, diagnosis of adenomyosis will not be missed histopathologically. Out of 25 women having adenomyosis, 48% were in their 4th decade of life and 48% were in their 5th decade.

Majority means 80% had 3 or more deliveries in the past indicating that adenomyosis is common in multiparous women (Table I). This is explained by Israel *et al*. According to them, every pregnancy increases the chances of endometrial penetration into myometrium. This could be explained on anatomical basis that because of lack of submucosa in the uterus, endometrial glands penetrate into the myometrium easily and get caught as infoldings into the hypertrophied myometrium when it contracts after delivery.

TABLE I  
Adenomyosis—Correlation with Parity

No. of Children	No. of cases	%
0 - 2	5	20.00
3 - 4	14	56.00
More than 4	6	24.00
Total	25	100.00

Correlation between adenomyosis and number of years after last delivery is shown in Table II. Only 8% had their last delivery less than 5 years back. In this study 72% women had their last delivery more than 10 years earlier which indicates that prolonged action of estrogens uninterrupted by progesterone may be responsible for the development of adenomyosis.

TABLE II  
Adenomyosis—Correlation with Last Delivery

No. of years after last delivery	No. of cases	%
Less than 5 yrs	2	8.00
5 - 10 yrs	5	20.00
10 - 20 yrs	15	60.00
More than 20 yrs	3	12.00
Total	25	100

Among 25 women shown to have adenomyosis, 40% complained of menorrhagia, 16% had dysmenorrhoea, 20% complained of irregular bleeding per vaginum and 20% had prolapse of uterus (Table III).

Weight was taken of all 100 uteri without tubes and ovaries. According to Mathur *et al*, normal uteri weigh between 70-80 gms. Hypertrophic uteri weigh above 80 gms. In our study, out of 25 positive uteri, 24 uteri were hypertrophic. 16% weighed between 80-100

TABLE III  
Adenomyosis—Presenting Symptoms

Symptoms	No. of Cases	%
Menorrhagia	10	40.00
Dysmenorrhoea	4	16.00
Irregular bleeding PV	5	20.00
Prolapse	5	20.00
Lump in Abdomen	1	4.00
Leucorrhoea	1	4.00

gm i.e. mild hypertrophy. 76% weighed between 100-150 gm i.e. moderate hypertrophy and 4% were severely hypertrophied weighing more than 150 gm. Clinically 28% were normal in size and 64% were bulky to 12 wks in size (Table IV).

TABLE IV  
Adenomyotic Uteri—Analysis of Weight and Clinical Size

Weight in grams	Small	Normal	Bulky	Upto 12 wks	Total	%
Less than 80 gms	—	1	—	—	1	4.00
80-100 (Mild hypertrophy)	2	—	2	—	4	16.00
100-150 (Moderate hypertrophy)	—	6	11	2	19	76.00
More than 150 (Severe hypertrophy)	—	—	1	—	1	4.00
Total	2	7	14	2	25	100.00

On gross examination, the most frequent finding was a trabeculated appearance of the myometrium with a few cystic spaces, most marked in enlarged uterus. Anterior as well as posterior walls of uteri were equally involved. Novak and De'lima believe that occasionally ectopic endometrium exhibits cyclic functional response, but more often it is of an immature unripe and anovulatory type of endometrium. It is

responsive only to the estrogenic stimulus, but not to progesterone. In our study, in 84% uteri surface as well as ectopic endometrium showed proliferative phase and remaining showed secretory phase.

Applying Molitor's criteria adenomyosis was graded histologically according to the depth of penetration of ectopic glands into myometrium. Grade I means penetration into inner third, Grade II means penetration till middle third and grade III showing penetration reaching to outer third of myometrium. Following Bird *et al*, the degree of involvement was judged according to number of ectopic glands per low power field. Mild

means 1 to 3 glands, moderate showing 4 to 9 and severe means 10 or more ectopic glands per low power field. In our study, majority of uteri had grade II penetration and moderate degree of involvement. The higher was the degree and grade of involvement, the greater were the menstrual disturbances and larger was the uterus.

The triad of menorrhagia, dysmenorrhoea and bulky uterus leads to clinical

diagnosis of adenomyosis. However, out of 100 cases studied by us, only 2 were diagnosed clinically as adenomyosis which unfortunately turned out to be fibroid histopathologically. Out of 25 positive cases, preoperative diagnosis and indication for hysterectomy was DUB in 14, fibroid in 4. Out of remaining 7, 5 were operated for prolapse, 1 for carcinoma of cervix and 1 for ovarian cyst, adenomyosis was found to be a concomittant finding in them. Leiomyoma was the commonest associated lesion again explaining hyperestrinism giving rise to higher incidence of leiomyoma as well as adenomyosis.

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Case No.	Age	Duration	Menstrual History	Physical Examination	Investigations	Diagnosis	Treatment	Outcome
1	35	10 yrs	Irregular, heavy	Normal	Normal	Adenomyosis	Hysterectomy	Good
2	40	15 yrs	Regular, normal	Normal	Normal	Fibroid	Hysterectomy	Good
3	38	8 yrs	Irregular, heavy	Normal	Normal	Adenomyosis	Hysterectomy	Good
4	32	5 yrs	Irregular, heavy	Normal	Normal	Adenomyosis	Hysterectomy	Good
5	45	20 yrs	Regular, normal	Normal	Normal	Fibroid	Hysterectomy	Good
6	30	3 yrs	Irregular, heavy	Normal	Normal	Adenomyosis	Hysterectomy	Good
7	35	10 yrs	Irregular, heavy	Normal	Normal	Adenomyosis	Hysterectomy	Good
8	40	15 yrs	Regular, normal	Normal	Normal	Fibroid	Hysterectomy	Good
9	38	8 yrs	Irregular, heavy	Normal	Normal	Adenomyosis	Hysterectomy	Good
10	32	5 yrs	Irregular, heavy	Normal	Normal	Adenomyosis	Hysterectomy	Good
11	45	20 yrs	Regular, normal	Normal	Normal	Fibroid	Hysterectomy	Good
12	30	3 yrs	Irregular, heavy	Normal	Normal	Adenomyosis	Hysterectomy	Good
13	35	10 yrs	Irregular, heavy	Normal	Normal	Adenomyosis	Hysterectomy	Good
14	40	15 yrs	Regular, normal	Normal	Normal	Fibroid	Hysterectomy	Good
15	38	8 yrs	Irregular, heavy	Normal	Normal	Adenomyosis	Hysterectomy	Good
16	32	5 yrs	Irregular, heavy	Normal	Normal	Adenomyosis	Hysterectomy	Good
17	45	20 yrs	Regular, normal	Normal	Normal	Fibroid	Hysterectomy	Good
18	30	3 yrs	Irregular, heavy	Normal	Normal	Adenomyosis	Hysterectomy	Good
19	35	10 yrs	Irregular, heavy	Normal	Normal	Adenomyosis	Hysterectomy	Good
20	40	15 yrs	Regular, normal	Normal	Normal	Fibroid	Hysterectomy	Good
21	38	8 yrs	Irregular, heavy	Normal	Normal	Adenomyosis	Hysterectomy	Good
22	32	5 yrs	Irregular, heavy	Normal	Normal	Adenomyosis	Hysterectomy	Good
23	45	20 yrs	Regular, normal	Normal	Normal	Fibroid	Hysterectomy	Good
24	30	3 yrs	Irregular, heavy	Normal	Normal	Adenomyosis	Hysterectomy	Good
25	35	10 yrs	Irregular, heavy	Normal	Normal	Adenomyosis	Hysterectomy	Good

...the most commonest associated lesion again explaining hyperestrinism giving rise to higher incidence of leiomyoma as well as adenomyosis.