

PYOMETRA - A REAPPRAISAL

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SUMMARY

Fifty two cases of pyometra admitted over a period of 5 years were reviewed, comprising 0.4 percent of Gynaecological admissions. Senile endometritis (61.5%) was found to be the commonest cause of pyometra. Association with uterine or cervical malignancy was seen in 21.15% of patients. Neglected forgotten IUCD's and endometrial tuberculosis in the postmenopausal women were also observed as rare etiological factors. No case of squamous metaplasia of the endometrium was detected. Correct preoperative diagnosis of pyometra was made only in 28% of cases. It is suggested that in all cases of doubt uterine sounding in the OPD will improve the diagnostic accuracy. For drainage of pus, insertion of Foley's catheter/drainage tube was found to be superior to repeated dilatations. Cases of senile endometritis where hysterectomy was not done, showed a high rate of recurrence of pyometra. Prolonged cyclic use of oestrogens in these cases significantly reduced the recurrence rate.

INTRODUCTION

Pyometra is accumulation of pus in the uterine cavity, caused by interference with natural drainage of uterus. The first case of pyometra was probably described by John Clarke of London in 1812 (Henriksen 1956). The majority of reports have been mainly concerned with the association between Pyometra and malignant diseases of genital tract. (Carter et al 1951, Henriksen, 1952, Stone and Winstar 1959, Maram et 1981). Attention was

first drawn by Whiteley and Hemlatl (1971) of more frequent association of pyometra with benign as compared to malignant diseases of the genital tract. Diversity in the methods of management of these cases indicate that a more logical approach is needed for their management. Attention is again focussed by this review on the aetiology, methods of improving clinical diagnosis and to stimulate fresh thinking about its management.

MATERIAL AND METHODS

Fifty two consecutive cases of pyometra admitted in MAMC and LNUP Hospital,

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New Delhi over a period of 5 years (1984 to 1988 inclusive) were studied.

RESULTS

Incidence of pyometra was found to be 0.4% of Gynaecological admissions. All but 4 of the patients were postmenopausal. In the post menopausal patients menopause had occurred 3 to 27 years (mean 12.6% years) before the diagnosis of pyometra. There was no relationship between parity/gravidity and the occurrence of pyometra.

Presenting problems

Majority of patients complained of postmenopausal bleeding (45%) and/or vaginal discharge (64%). Only 7.7% of patients were

asymptomatic. Bimanual examination of the uterus revealed cystic enlargement of the uterus in 30% of cases. Preoperative diagnosis was made only in 15 (28.8%) of cases.

Etiology

Senile endometritis was the commonest cause of pyometra (61.5%). Uterine or cervical malignancy was found to be associated with 21.15% of cases. In the postmenopausal women endometrial tuberculosis and neglected, forgotten IUCD's were also found as rare etiological factors (Table 1).

Bacteriology

Pus culture reports were available in 33 cases and proved to be sterile in 12(36.3%) of them, including one case of tubercular en-

TABLE I

Etiology of pyometra

S. No.	Etiological Factor	No. of Cases	(%)
1.	Senile Endometritis	32	(61.53)
2.	Malignancy	11	(21.15)
	- endometrial carcinoma (4)		
	- Endocervical carcinoma (5)		
	- Ectocervical carcinoma (2)		
3.	Previous Gynae Surgery (Following Manchester Repair)	1	(1.92)
4.	Obstetric (Puerperal Sepsis)	1	(1.92)
5.	Foreign body (IUCD)	2	(3.84)
6.	Others	5	(9.61)
	- Radiation effect for uterine carcinoma (2)		
	- Tubercular Endometritis (1)		
	- Uterovaginal prolapse (1)		
	- Submucous fibroid polyp (1)		
Total		52	(100%)

TABLE II

Comparison of methods used for drainage of pus

S. No.	Treatment method	No. of Cases	Mean duration of drainage	No. of dilatation required
1.	Repeat dilatations	39	13.2 days (mean 2.6)	1 to 5
2.	Dilatation + Foley's Catheter/drainage tube	13	6.2 days	Once only

dometritis. Positive cultures mostly yielded a mixed variety of organisms, the most common being *E coli* and *staphylococcus aureus*.

Primary management

Drainage of pus by repeat dilatations, usually done biweekly or by putting a Foley's catheter/drainage tube followed by curettage under antibiotic coverage was the primary treatment.

Time required for drainage of pus was found to be significantly shortened in cases where foley's catheter/drainage tube were

inserted into the uterine cavity (Table II). Total amount of pus drained ranged from 15 to 500 ml (mean 65 ml). When indicated, curettage was carried out immediately after cassation of pus drainage and curettings were sent for histopathological examination (Table III).

All four reported cases of endometrial carcinoma showed clinically palpable, advanced necrotic growth in the uterus, with histopathology report of adenocarcinoma in 2 and mixed mullerian tumour and leiomyosarcoma in one each. No instance of squamous

TABLE III

Histopathology report on curettage

S. No.	Histopathology report	No. of cases (Total = 52)
1.	Endometrial carcinoma	4
2.	Endometritis	33
	- Acute	(5)
	- Chronic	(21)
	- Acute on chronic	(6)
	- Tuberculosis	(1)
3.	Atrophic endometrium	2
4.	No curettings obtained	4
5.	Curettage not done	9

TABLE IV

Treatment in senile endometritis group

S. No.	Treatment	No. of cases (%)	
		Total = 32	
1.	Surgery done	13	
2.	Surgery not done	19	
	A. Recurrence of Pyometra/ In Oestrogen treated Group	0/6	(0)
	B. Recurrence of Pyometra/ In non-oestrogen Group	5/13	(38.4)

metaplasia of the endometrium was observed. Cervical biopsy established the diagnosis of carcinoma cervix in 7 cases. Five patients developed fever following curettage but none had septicaemia or perforation of uterus as complication of curettage. In cases where curettings were not obtained endometrial aspiration was done for diagnostic purposes.

Secondary management

When cause of pyometra was malignancy or other specific disease it was managed accordingly.

Management of pyometra because of senile endometritis varied according to policy adopted by different units. While some units advised panhysterectomy straight-away, others preferred to wait and watch initially.

Panhysterectomy was done in 13 cases within one month of curettage under routine antibiotic coverage. In others surgery was not done for the following reasons - patients not fit (4), refused by patient (6), not advised by Gynaecologist (9). Out of these 19 patients 6 were treated with prolonged cyclic oestrogen therapy (premarin .625mgm daily) for 4 to 6 months. None of the patients receiving oe-

strogens developed pyometra. In the remaining, 38.4% developed pyometra again (Table IV). One patient who repeatedly refused surgery, reported 3 times with pyometra. On repeat curettage none of the patients showed squamous metaplasia or carcinoma of the endometrium. All recurrences were seen within 2 to 11 months.

DISCUSSION

Incidence of Pymoetra reported in the present study is 0.4% of Gynaecological admissions. This compared with 0.2% and 0.5% in the reports of Whiteley and Hemlett (1971) and Henriksen (1952) respectively.

Although majority of patients presented with symptoms suggestive of pyometra, preoperative diagnosis was made only in 28.8%, mostly because of the fact that the clinician failed to think of it. Majority of patients could only be diagnosed at the time of cervical dilatation done prior to curettage in the operation theatre, disturbing the O-T schedule. The condition might be missed in a considerable number of out patients attending the large gynaecologic hospitals. It is suggested that in all cases of doubt, particu-

larly in post menopausal women, uterine sound should be passed in the out-patient clinic to avoid delay in the diagnosis (Whiteley and Hemlett 1971). The introduction of diagnostic ultrasonography to the field of Gynaecology will aid in making correct preoperative diagnosis.

A more frequent association of Pyometra with uterine malignancy has been reported by many (Carter et al 1951, Stone and Winstar 1959, Maram et al 1981). Attention was first drawn by Whiteley and Hemlett (1971) of more frequent association of Pyometra with benign as compared to malignant lesions of the genital tract.

The association of pyometra with squamous Metaplasia of the endometrium has been reported with varying frequency by various workers (Whiteley and Hemlett 1971). They suggested that squamous metaplasia may precede the development of squamous carcinoma of the endometrium, particularly in the presence of chronic irritation. None of our patients showed squamous metaplasia of the endometrium. After reviewing the literature Simon et al (1988) found that out of total 26 reported cases of the primary squamous cell carcinoma of the endometrium, 31% were associated with pyometra. However it was suggested that Pyometra and chronic infection can be the result rather than the cause of the disease (Levine and Sciorsci 1966). Pyometra chiefly appears to be the result of malignancy as cervical canal is blocked by extension of tumour, or presence of big necrotic growth in the endometrium itself predisposes to formation of pyometra.

For drainage of pus, Foley's catheter/drainage tube was found to be superior to repeat dilatations as it was one stage procedure and time required for drainage of pus was found to be significantly shortened reducing hospital stay. Foley's catheter, connected to a plastic collection bag, has the

added advantage of minimal soiling.

After the menopause, when endometrium loses its resistance and is not shed repeatedly, any infection which gains entrance to the uterus can persist as senile endometritis.

This exudes pus which tends to collect in the uterus to form a pyometra, because the cervix is narrowed by senile change and atrophied myometrium is unable to expel it. Hysterectomy is recommended in all cases of pyometra due to senile endometritis. This assures certain cure, circumvents the difficulty of excluding underlying carcinoma, and removes potentially malignant organ (Jeffcoate 1987). In cases where surgery was not done for various reasons, cyclic oestrogen therapy had definitely shown to reduce the risk of recurrence of pyometra. Oestrogen therapy may help in healing of senile endometritis lesion thus preventing recurrent pyometra formation and by removing the source of chronic irritation it may eliminate the possibility of development of malignancy. However, this hypothesis remains to be evaluated by further studies.

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