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Chronic Endometritis

A CLINICAL AND HISTOPATHOLOGICAL STUDY

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SUMMARY

Chronic endometritis is not an uncommon diagnosis in our biopsy material and we believe should be diagnosed more frequently. There seems to be no correlation however between clinical symptomalogy and severity of plasma cell infiltration of the endometrial stroma as observed histologically. Pelvic inflammatory disease is the condition most commonly associated with chronic endometritis. The precise etiology of pelvic inflammatory disease is not clear. No clinical cause could be found in 37.5% of our cases with histopathological diagnosis of chronic endometritis.

INTRODUCTION

Chronic endometritis has evolved from a vague and improperly understood condition to one which is now generally recognised as a pathological entity by pathologists (Dallenbach-Hellweg, 1971). Hitschmann and Adler (1970) first used the term 'chronic endometritis' to mean endometrial stromal inflammation. They concluded that plasma cells were constantly found in endometritis associated with inflammatory adnexal disease, and post-partum and post-abortion endometritis.

Chronic endometritis is a condition in which there is indisputable evidence of a chronic inflammatory process in the endometrium. Polymorphonuclear leucocytes are normally found in the endometritis as these cells do not normally occur at any stage of the cycle (Dumoulin and Hughesdon, 1951; Rozin et al., 1967; Mishell and Moyer, 1969; Ober et al., 1970; Vasudeva et al., 1972). Chronic endometritis may occasionally follow an acute attack. However, in the majority of cases it is believed to be chronic de novo, (Sandison, 1971). The incidence and clinical significance of chronic endometritis is still a matter of debate (Farooki, 1967; Jeffcote, 1967; Vasudeva et al., 1972).

Comparatively little attention has been devoted to this problem in Africa. We have not infrequently noted the presence of chronic endometritis in our histopathological material and consequently we decided to review our cases.

PRESENT STUDY

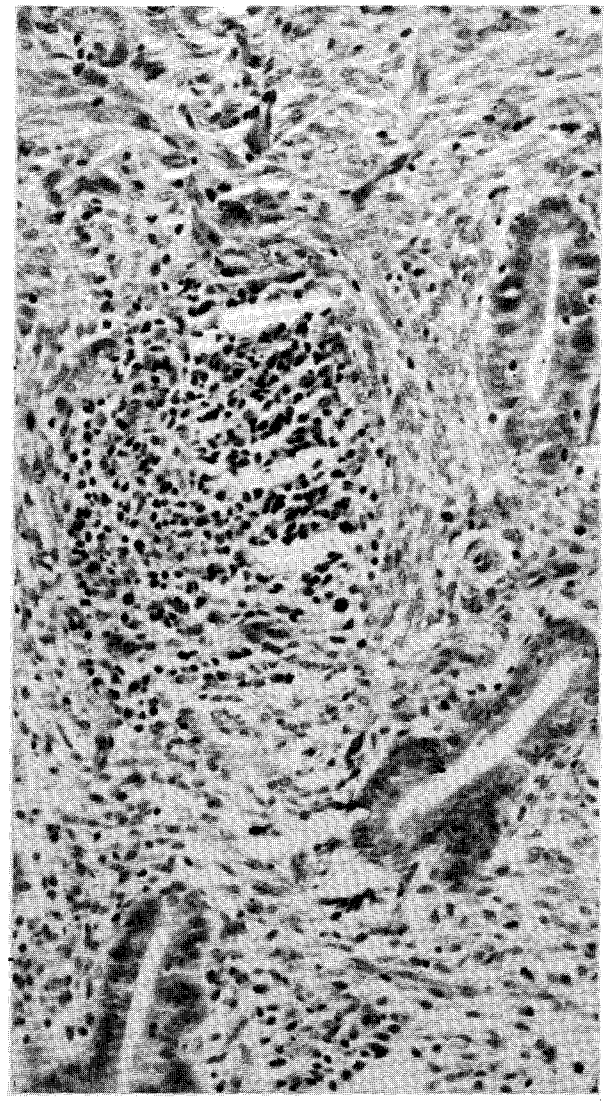
This study is an attempt to assess the incidence of chronic endometritis in our endometrial biopsy material and to attempt a correlation between the histopathological findings and clinical presentation.

MATERIALS AND METHODS

All endometrial biopsies received from the Department of Gynaecology, University Teaching Hospital, Lusaka for a six month period from September 1974 to March 1975 were included in the study. The biopsies were fixed in 10% formal saline and sections stained routinely with hematoxylin and eosin were examined by light microscopy.

The presence of plasma cell infiltration of the endometrial stroma was used as the criteria for a histopathological diagnosis of chronic endometritis. The pattern of stromal infiltration by plasma cells was also assessed as being either focal (Fig. 1) or diffuse (Fig. 2). Each of these two groups were in turn graded into mild, moderate and severe depending on the plasma cell counts. Plasma cell counts of more than 50 per high power field were graded severe; and under 10 as mild. Where plasma cell infiltration was focal cell counts were done in the fields showing the densest infiltration. As the quantity of curettings were not standard, it was not considered practicable for detailed counts for comparative results. Scores were estimated in a minimum of two high power fields on the same section in each case.

FIG. 1



An example of focal chronic endometritis with focal concentration of plasma cells and lymphocytes.

HE x 250

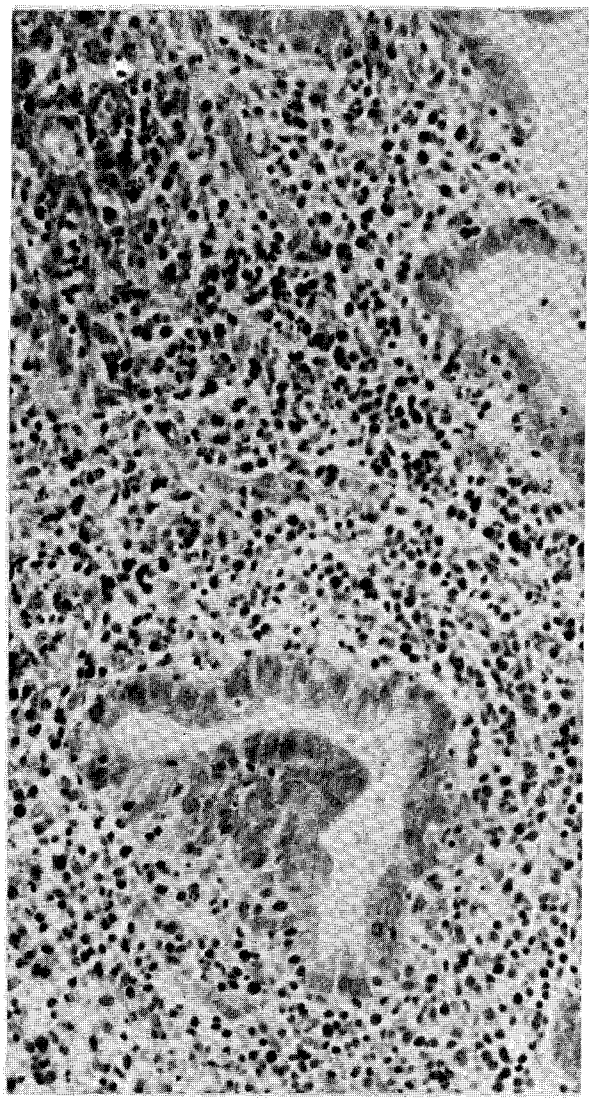
RESULTS

During the six month period, 260 endometrial biopsies were studied. Plasma cell infiltration was observed in 64 cases, an incidence of 24.6%.

Histopathology

There were 32 cases with focal plasma cell infiltration and 29 cases with diffuse plasma cell infiltration (Table I).

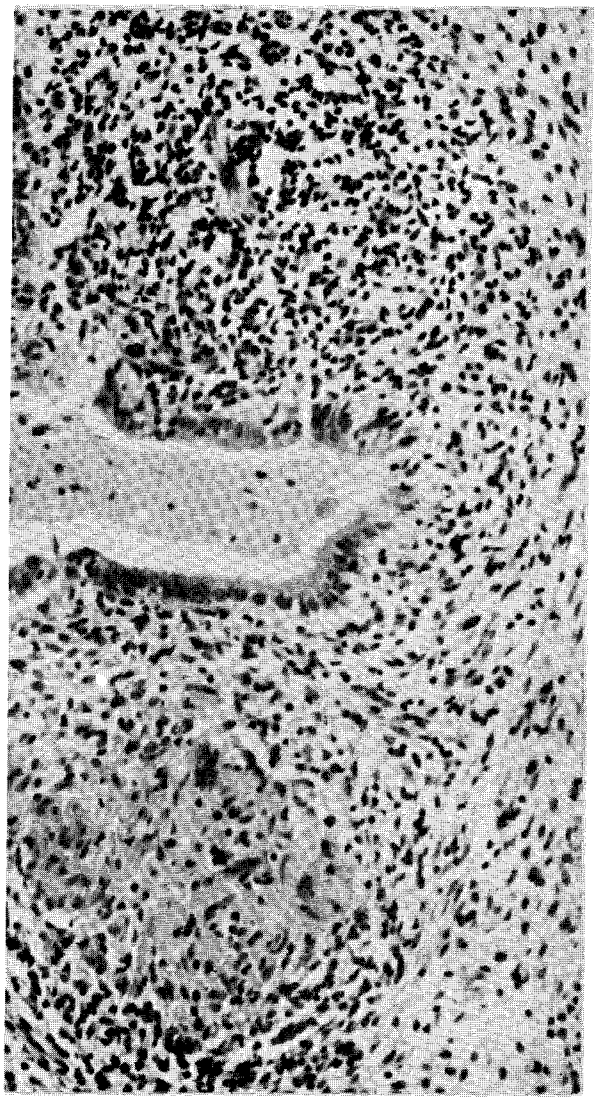
FIG. II



An example of severe diffuse chronic endometritis. There is diffuse infiltration predominantly of plasma cells and some lymphocytes. The stroma is largely obscured by the infiltration.

HE x 250.

FIG. III



Tuberculous endometritis showing a typical granulomatous focus and surrounding lymphocytic and plasma cell infiltration. Other areas showed caseative necrosis.

HE x 250

TABLE I

HISTOLOGICAL GRADING OF PLASMA CELL INFILTRATION.

Focal	No.	%	Diffuse	No.	%
Mild	23	72	Mild	11	38
Moderate	7	22	Moderate	14	48
Severe	2	6	Severe	4	14
Total	32	100		29	100

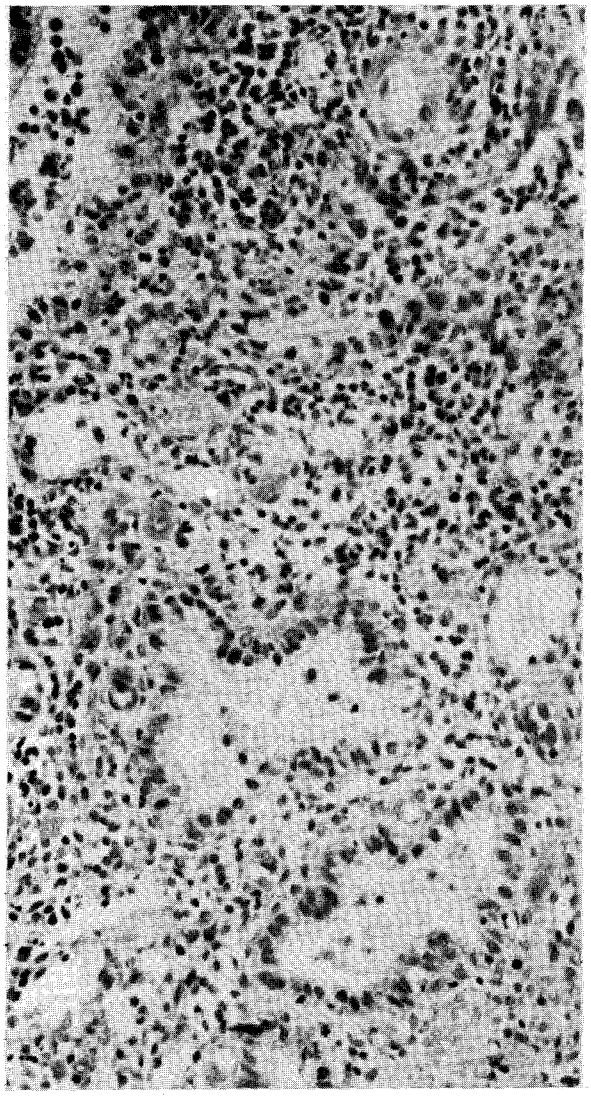
NOTE:

Two cases of Tuberculous endometritis (Fig. 3) and one case of bilharzial endometritis are not included in above grading.

Associated Histological Findings

The endometrium was in the proliferative phase in 31 cases, the secretory phase in 27 cases and in the interval phase in 6 cases (Table 2). Arias-Stella reaction was noted in 7 cases (Fig. 4).

FIG. IV



Chronic endometritis associated with Arias Stellar reaction. There is diffuse infiltration of plasma cells and lymphocytes. Glands show the changes associated with Arias Stellar reaction and stromal cells show decidual change.

HE x 250

TABLE 2.

HISTOLOGY OF ENDOMETRIUM

Histologic Findings	No. of patients	%
Proliferative phase	31	44
Secretory phase	27	38
Interval phase	6	8
Arias-Stella reaction	7	10
Total	71	100

Clinical Features

We attempted a retrospective study of clinical features in these patients and the analysis is presented below.

Age

The age distribution of cases with chronic endometritis is shown in Table 3. The youngest patient in this series was 16 years and the oldest 50 years. However, the majority of the patients (80%) were in third and fourth decades, indicating that most of our cases were premenopausal.

TABLE 3

AGE DISTRIBUTION OF CASES WITH CHRONIC ENDOMETRITIS.

Age	No. of Patients	Percent
Less than 20 years	20	15
21–30 years	35	55
31–40 years	16	25
Over 50 years	3	5
Total	64	100

PARITY

The relationship to parity is shown in Table 4. There was no association between parity and chronic endometritis.

TABLE 4

PARITY OF PATIENTS WITH CHRONIC ENDOMETRITIS.

Parity	No of Patients	Percent
Para 0	13	20
Para 1	14	22
Para 2	14	22
Para 3	13	20
Para 4	2	3
Para 5 or above	8	13
Total	64	100

Symptoms

The presenting symptoms of our cases are summarised in Table 5. Patients generally presented with a combination of symptoms.

Lower abdominal pain was the commonest presenting symptom being noted in 43(69%). Menorrhagia in 32 (50%) cases and irregular periods in 27 (42%) cases were other common symptoms. The duration of these symptoms varied from between one to twenty-four months. Infertility for periods ranging from two to sixteen years was present in 21 (33%) cases. There were 13 patients with primary infertility among the above group. Nine patients (14%) had histories typical of incomplete abortions. Dysmenorrhoea was not a common complaint. Three patients were

asymptomatic and were admitted for removal of intrauterine contraceptive device (IUCD).

TABLE 5
SYMPTOMS OF CASES WITH CHRONIC ENDOMETRITIS (64 Cases)

Symptom	No. of Patients	%
Lower abdominal pains	43	67
Menorrhagia	32	50
Irregular periods	27	42
Infertility	21	33
Amenorrhoea followed by bleeding	9	14
Dysmenorrhoea	7	11
Removal of IUCD	3	5

Clinico-Pathological Correlation

Nine cases of chronic endometritis were associated with abortions (Table 6). Endometritis associated with an IUCD was present in eight cases. There were two cases of tuberculous endometritis and one case of bilharzial endometritis. In the remaining 44 (68.7%) cases there was no apparent etiological factor to explain the chronic endometritis.

TABLE 6
ETIOLOGY

Etiology	No. of Patients	%
Intrauterine contraceptive device	8	13
Post abortion	7	11
Post partum	2	3
Tuberculous	2	3
Bilharzial	1	1
Not known	44	69
Total	64	100

Clinical Findings

The main clinical findings in cases with chronic endometritis is summarised in Table 7.

Pelvic inflammatory disease diagnosed at the time of admission in 27 (42%) cases. These patients had tenderness in the lower abdomen or in the pelvic adnexae with or without a palpable mass.

Fourteen patients (22%) had a vaginal discharge. Eight patients were wearing an intrauterine contraceptive device (IUCD) either a Lippe's or a Copper loop, at the time of admission. The duration of the IUCD in these patients varied from ten months to six years. Eight patients had chronic cervicitis while four patients had uterine fibroids.

One patients had an endometrial polyp.

TABLE 7
FINDINGS OF CLINICAL EXAMINATION
(In 64 Cases)

Finding	No. of Patients	%
Pelvic inflammatory disease	27	27
Vaginal discharge	14	22
IUCD	8	+12
Chronic cervicitis	8	-12
Uterine fibroids	4	6
Endometrial polyp	1	2
Endometrial polyp	2	3

DISCUSSION

The incidence of chronic endometritis in this study has been shown to be 24.6%. This is high when compared with similar studies elsewhere (Table 8).

TABLE 8
INCIDENCE OF CHRONIC ENDOMETRITIS

Author	Year	Incidence	Type of material studied
Sutherland	1949	11%	1000 cases of functional bleeding.
Dumoulin and Hughesdon	1951	5.3%	1240 endometrial biopsies
Brudenell	1955	7%	–
Farooki	1967	19.2%	2345 uterine curettings
Vasudeva et al.	1972	2.3%	4339 endometrial curettings
Present Study	1975	24.6%	260 endometrial biopsies

PRESENT STUDY

It has been claimed that chronic endometritis is a rare disease between the menarche and the menopause. (Jeffcoate, 1967). This has not been borne out in our study. In our study 80% of patients are between 21–40 years of age and 84% of patients had a parity of under three children. Thus chronic endometritis in Zambia is a more common disease during young and reproductive life than would appear from the literature. Our findings are consistent with the experience of several other authors (Farooki, 1967; Vasudeva et al., 1972).

One third of our patients presented with infertility. Tuberculous endometritis is a well-known cause of infertility. However, T.B. endometritis accounted for only two patients in our study. It is very likely that chronic non-specific endometritis is also responsible for infertility.

Depending on the severity of chronic endometritis, the hormonally induced cyclic changes of the endometrium may be profoundly affected (Dallenbaoh-Hellweg, 1971). The effect of chronic endometritis on the hormonal balance and ovulation in our patients was not assessed except for noting the stage of the menstrual cycle as shown by histology (Table 2).

Etiology

In 44 (68.7%) patients there was initially no apparent etiology for the chronic endometritis (Table 6). On further analysis however, it was found that pelvic inflammatory disease was confirmed in 20 cases. Seven of these patients also had other associated pathology. In five the fallopian tubes were found to be occluded either on hysterosalpingogram or on laparotomy. Ovarian cysts were found on laparoscopic examination in the other two cases. Tube-ovarian pathology would probably have been found in a greater percentage of patients if ancilliary investigations like laparoscopic examination were conducted in all patients. Our observations are consistent with those of other authors (Damolin and Hughesdon 1951, Farooki, 1967).

Chronic endometritis was present in eight patients who had an IUCD. There are several reports in the literature showing a consistent association between IUCID and chronic endometritis. (Rozine et al., 1967 Mishell and Moyer, 1969; Ober et al., 1970). The absence of clinical evidence of pelvic inflammatory disease and the low frequency with which bacteria can be demonstrated in patients with IUCD and with intense inflammatory reaction led Ober et al., (1970) to believe that infection is not a major cause of the inflammatory reaction. On the other hand Mishell and Moyer (1969) maintain that plasma cell infiltration may take place in response to previous degradation of bacteria by neutrophils and mononuclear cells. This plasma cell infiltration may persist for several months despite intervening menses without viable bacteria being present. Whether such changes represent low grade infections, exacerbations of pre-existing infection or merely a foreign body response of the endometrium is not yet clear (WHO, 1966).

Incidentally, the exact mechanism by which IUCD achieve contraception is also not understood. Some authors have postulated that the presence of an inflammatory response may be an important anti-fertility factor since a blastocyst implants with difficulty in an inflamed endometrium (Ober et al., 1970). Chronic endometritis may therefore be responsible for sterility and may explain the common association between chronic endometritis and sterility in our patients.

There were only two cases of tuberculous endometritis and one case of schistosomal endometritis despite the fact that both pulmonary and complicated tuberculosis and schistosomiasis are common diseases in Zambia. This suggests that the endometrium is not a common site for these diseases. In the final analysis no satisfactory explanation for the chronic endometritis was found in 24 (37.5%) cases.

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