NON-SPECIFIC CHRONIC CERVICITIS AND CERVICAL EROSION

by

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Non-specific chronic cervicitis and cervical erosion are the commonest of all the lesions encountered in gynaecological practice and have long constituted an enormous problem. These lesions have been recognised as a factor in sterility, pelvic pain and inflammation, bladder irritability, menorrhagia, arthritis, backache and leucorrhoea to mention only a few. They also constitute a causal relationship in the aetiology of cervical cancer. The incidence of cancer cervix still remains high in our country whereas in other countries it has fallen considerably. The cause of this discrepancy is the high birth rate, poor obstetric care and the continued neglect of benign cervical lesions.

In a total of 1908 patients examined in the Gynaecological Out-patients Department, 47.4% had benign cervical pathology of which 22.9% were nulliparae while 50.4% were multiparae. This incidence is much higher than that reported by Chakravarty (26.1%). In nulliparae, Graber found a similar figure (20%) as reported in this study, but in multiparae his incidence was 78% while that of Ross and Fulkerson was 36% and 33% respectively. Carcinoma of the cervix in the very early stages often presents in the form of a benign looking erosion. If these cases are not investigated in detail the true nature of the lesion is often missed. Therefore, all clinically diagnosed erosions should be thoroughly examined and investigated, especially those of the papillary type.

One hundred and fifty-five cases clinically diagnosed as having benign lesions of the cervix were selected for this study. A detailed history of the present complaints along with age, social status, menstrual history and parity was taken. Vaginal and speculum examinations were carried out. The following points were noted:—

(a) Irregularity, nodularity or any growth of the cervix.

(b) Size and mobility of the cervix and uterus.

(c) Irregularity or increased thickness of the cervical canal.

(d) Presence or absence of any adnexal masses or associated cellulitis.

Speculum Examination

(a) Appearance of the cervix.

(b) Nature of the discharge.

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Received for publication on 5-6-63.

(c) Associated vaginitis.

After a detailed examination further investigations were carried out 3-4 days later.

Investigations

(1) *Cervical Swab.* (a) Hanging drop preparations were made and examined to exclude trichomonas vaginalis infection.

(b) Smear stained with Gram's stain and examined for monilia, gonococci and other bacteria.

(c) In selected cases culture of the discharge for pathogenic organisms was carried out.

(2) *Exfoliative Cytology.* Cervical smears were studied after staining with Papanicolaou stain for any cellular aberrations.

(3) Probe test was done to assess the friability of the tissues.

(4) Schiller's test was carried out in all the cases to assess the extent of the lesion and to pin-point the site of biopsy.

(5) *Cervical Biopsy.* Multiple or circumferential biopsies were taken after Schiller's test for histo-pathological study.

After complete investigations the patients were given the necessary treatment and requested to report after 6 weeks and then after 3 months unless they had some complaints requiring immediate attention.

Table I gives the percentage of various types of benign lesions met within the present series. Out of a total of 155 patients 118 had non-specific chronic cervicitis and erosion, an incidence of 76.26%. In this paper the above 118 cases would only be considered. The other benign lesions like polyps, fibromyomata, tuberculosis, chronic cervicitis associated with trichomonas vaginalis or monilia infection, carcinoma in situ and invasive cancer have been excluded. It will not be out of place to mention here that out of these cases clinically diagnosed as benign, one case turned out to be that of carcinoma in situ and another of invasive cervical cancer, thus emphasising the close similarity between two conditions and the importance of a detailed investigation.

TABLE I

	Types of lesion	No. of patients	Percentage
1.	Cervicitis and erosion:		
	(a) Non-specific cervicitis and erosion	118	76.26
	(b) Trichomonas vaginalis infection	10	6.40
	(c) Monilia Albican's infection	7	4.50
	(d) Paul-Vincent's infection	2	1.30
	(e) Tubercular cervicitis	1	0.64
2.	Cervical polyp	13	8.32
3.	Fibromyoma cervix	2	1.30
4.	Carcinoma in situ	1	0.64
5.	Invasive carcinoma	1	0.64
	Total	155	100%

Aetiological Factors

An attempt was made to find the probable causal factor in each case. The commonly cited causes of chronic cervicitis and acquired erosion are presumed to be hormonal, traumatic and acute pyogenic infections which finally become chronic. Majority of the workers, like Baer, Black, Findley, Young, Curtis, Huffmann and Fulkerson, favour the hypothesis of infection while Wollner, Bourne, Bond and Mc Garrity and Roblee are

firm supporters of the hormonal theory. Table 2 shows that in 44.9% of the cases, birth trauma followed by pyogenic infections appeared to be an important factor. In 3.31% of the cases labelled as instrumental or irrational trauma, a definite history of vaginal interference before the onset of symptoms could be elicited. In 46.6% of the cases no definite cause was found even though the possiblity of birth trauma could not be ruled out. It is noticed that chronic cervicitis and cervical erosions are most common during the reproductive period whereas they are rare in the post-menopausal age. No hormonal studies were carried out, so hyperoestrinism as a predisposing factor could not be definitely proved. The relationship of the lesions to age, however, is very significant. In selected cases where the cervical secretion was cultured, in 81%, no pathogenic organisms could be grown.* The history of symptoms dating back to child-birth in a large percentage of cases with some degree of inflammatory reaction, in most of the histopathological sections is in favour of the theory of infection. This is in contrast to Chakravarty who could not detect any signs of inflammation in most of his slides.

TABLE 2

Symptoms	Ross' Series		Present Series	
	No. of patients	Percentage	No. of patients	Percentage
1. Leucorrhoea	102	80	80	67.8
2. Abdominal pain ..	75	59	51	43.2
3. Backache	75	59	22	18.6
4. Urinary complaints ..	32	25	7	5.9
5. Cervical bleeding ..	11	9	21	17.0
6. Sterility	9	7	14	11.9
7. Dyspareunia	11	9	6	5.1
8. Dysmenorrhoea ..	14	11	10	8.5
9. Menorrhagia	24	19	13	11.0
10. Pruritus vulvae ..	15	12	8	6.8
11. Sense of pelvic weakness	3	2	2	1.7
12. Joint pains	—	—	2	1.7
13. No complaints ..	—	—	5	4.2

Out of 118 patients only 6 were nulliparous. No correlation is seen between gravidity and the incidence of the lesions.

Socio-economic Status

Out of 118 patients only 11 could boast of a family income of more than Rs. 300 p.m. The poor socio-economic conditions may also be responsible for an increased incidence due to lack of proper obstetric care, repeated child-births, poverty and ignorance.

* Both the above findings support the hormonal theory.

Symptomatology

Table 2 shows the incidence of the important symptoms and compares them with those observed in the series by Ross. Leucorrhoea, abdominal pain, backache, dysmenorrhoea, dyspareunia, urinary symptoms and pruritis valvae are less compared to the series by Ross, but sterility and irregular bleeding have relatively higher figures. It is possible that our patients only come to hospital when alarming symptoms like spotting make their appearance. Sterility and irregular bleeding accounted for 11.9% and 17% of the patients respectively. The value of cervical infection as a factor in sterility is doubtful. Bears and Brown believe that in cervical inflammation the mucopurulent secretion is rendered acid and thus repels the spermatozoa. Mathews and Buxton have demonstrated the spermicidal action of the bacteria found in the cervical secretion in cases of sterility. In the present study two patients became pregnant soon after treatment, showing that the secondary sterility could have been due to the cervical factor. In 17% of the cases who suffered from irregular bleeding the commonest lesion was a large papillary erosion.

TABLE 3

Gross Appearance in 118 Cases

Congestion	16
Nab. follicles	21
Smooth erosion	42
Papillary erosion	60
Hypertrophy	23
Ulcer	1
Cervical tears	13
Perineal tears	2
Prolapse uterus	4
Adnexal masses	5

Gross Appearance

Smooth erosion was diagnosed in 42 (35.6%) and papillary erosion on 60 cases (50.8%). The patients having smooth erosion were mostly nulliparous women and cleared rapidly with treatment. Gross abnormal pathology was far more commonly observed with papillary erosion. Out of a total 71 cases diagnosed clinically as papillary erosion, abnormal pathology was observed in three cases. In two of these unmistakable malignant changes were observed while the third one had Koch's infection. In 21 cases Nabothian follicles were visualized as pearly grey vesicles or yellowish if contents were purulent. Sometimes they were felt as bumps or surface irregularities. Cervical hypertrophy was observed in 23 cases and associated pelvic pathology in 5 cases.

Silver Probe Test was done in all the cases. It was positive in 30 cases of papillary erosion and in the 3 cases with abnormal pathology not included in the present paper.

Exfoliative Cytology

The smears were stained by Papanicolaou's technique and were classified into 4 types:

Type I. Where there was normal exfoliation from the superficial layers of normal benign cells.

Type II. Normal benign cells with abnormal exfoliation from the deeper layers of the epithelium.

Type III. Atypical benign cells with abnormal exfoliation from the deeper layers of the epithelium. The basal and the parabasal cells often acquired irregular bizarre forms,

tadpole cells with irregular cytoplasmic processes and fibre cells with vacuolation of the cytoplasm and perinuclear halos were seen. Individual cell outlines were, however, always distinct. The nuclei showed slight increase in size, rarely multinucleation and occasional clumping of the chromatin along the nuclear membrane, but the nuclear cytoplasmic ratio was always maintained (Fig. 1).

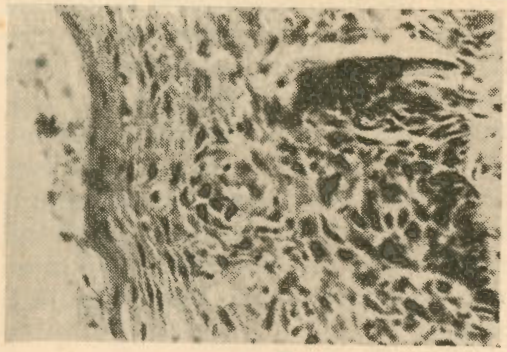

Fig. 1
Chronic cervicitis with a typical epithelium.

Type IV. Malignant cells were seen in two cases which have been excluded from this series.

Types II and III smears were mainly seen in the cases with papillary erosion. A study of the exfoliative cytology did not prove to be of much value in the classification of the various benign lesions of the cervix. Atypical cells were more commonly found in cases with associated trichomonal infestation. Type III smears were only found in 6 cases (5.1%) in the present series which is similar to that reported by Cheema (.5%). Wahi on the other hand observed atypical basal cells in 26% of his cases. Basal cell exfoliation (Type II smear) was seen in 77.1% of the cases and is similar to that seen by Wahi (71%).

Histopathological Changes

Fifty-six cases were diagnosed as chronic cervicitis. It showed the ectocervix and in some cases endocervical tissue. The interstitial tissues were infiltrated with lymphocytes, mononuclear and plasma cells, while in the subacute phase some polymorphonuclears were also seen. The stroma showed varying degrees of congestion but the inflammatory reaction mainly involved the superficial sub-epithelial tissues. The squamous epithelium showed hyperplasia and hypertrophy. Proliferation of the cervical glands with formation of Nabothian follicies was seen in some cases. Cervical erosion which was seen in 32 cases was characterised by ulceration, glands opening on to the squamous epithelium (Fig. 2). Long

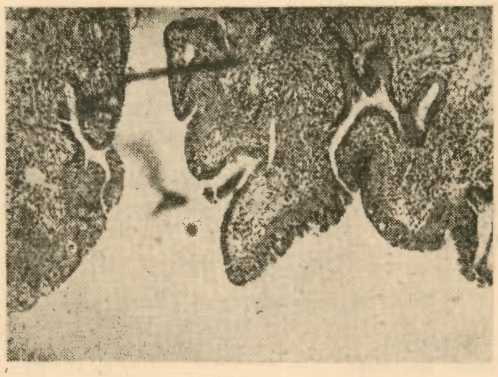

Fig. 2
Squamous metaplasia of the surface epithelium.

tongues of squamous epithelium creeping along the columnar epithelium were also observed. Thirty cases clinically diagnosed as cervical

erosion were labelled chronic endocervicitis after histopathological study. Hyperplasia of the lining columnar epithelium with squamous cell metaplasia was noticed in some of the sections.

Changes in the squamous epithelium were further classified into:—

1. *Simple Epithelial Hyperplasia.* Some degree of hypertrophy was seen in 14 cases. The congested and the strawberry cervices showed intra- and subepithelial infiltration and haemorrhages.

2. *Basal Cell Hyperplasia* was further divided into 3 grades according to Nesbitt.

Grade 1. The basal hyperplastic epithelium occupied only ¼ of the entire thickness.

Grade II. Half of the epithelium was composed of basal hyperplastic cells.

Grade III. The basal hyperplastic cells replaced the entire epithelium. Basal cell hyperplasia was present in 21.18% of the cases (Grade I 16 cases, Grade II 9 cases). Galvin, Jones and Telinde have observed some relationship between basal cell hyperplasia and carcinoma in situ. According to the above authors, the probability of basal cell hyperplasia leading to preinvasive cancer increases sharply with the degree of basal cell hyperactivity but they also observed complete regression of a marked degree of basal cell hyperplasia. Green and Peckham found that 10.7% of their cases of atypical basal cell hyperplasia ultimately progressed to carcinoma in situ. Atypical basal cell hyperplasia was seen only in one case in the present series. She is being observed. Acanthosis was seen in 1 case only, parakeratosis in five and hyperkeratosis in one, squamous cell metaplasia of the surface and glandular epithelium was detected in 32 cases (27.12%) (Fig. 3). This is a somewhat lower in-

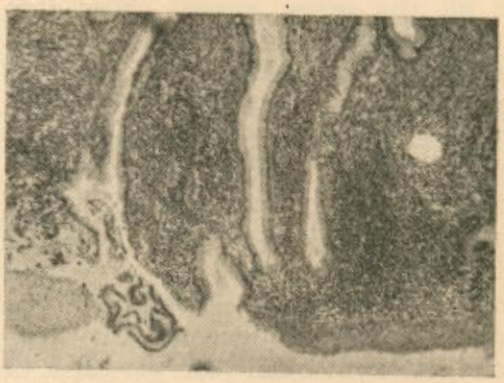

Fig. 3
Cervical erosion-gland is seen opening on the squamous epithelium.

cidence compared to that reported by Bainborough (37.5%) and Russell De Alvarez (50.7%). Carmichael and Jefferson found the incidence of metaplasia to be much higher in women above 50 years of age and believed that inflammation as such does not play any part in the metaplastic lesion. Averbach and Pund, on the other hand found, that chronic inflammation is also an important causative factor besides age. Russell De Alvarez, Figge and Brown agree with Carmichael and Jefferson that inflammation plays no part in the metaplastic process and they found a maximum incidence between 20-40 years followed by a decline. In the present study no definite correlation with age could be discovered though there is a slight preponderance in the age group 15-35 years. Atypical

changes in the metaplasic lesion were not seen in any of the cases.

Treatment

Electrocauterization, with or without a course of Desulan or Terramycin, was the usual line of treatment in all the cases, except those that were associated with prolapse. Forty-seven cases came for follow-up 6-9 months after electrocauterization. Thirty-one (65.9%) of the cases healed completely while 12 (25.9%) showed marked improvement. In 4 cases (8.51%) the lesion recurred after the patient became pregnant. Irregular bleeding completely disappeared whereas leucorrhoea, backache and abdominal pain persisted in a few cases even when the lesion showed complete healing. Ross treated 870 cases with electrocauterization with healing in 99.2% of his cases. Recurrence rate was only 4.7% and complications occurred in 0.7%. The much higher recurrence rate in the present series may be due to the superimposed pregnancy. Complications like pelvic inflammation, haemorrhage and stenosis were not observed in the present series.

Acknowledgement

We would like to express our gratitude to Col. B. L. Taneja, Medical Superintendent, Irwin Hospital, New Delhi, for permission to publish this paper.

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