

ROLE OF COLPOSCOPY IN THE EARLY DIAGNOSIS OF CARCINOMA CERVIX

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Carcinoma cervix is the commonest malignant neoplasm of the female genital tract. The incidence of carcinoma cervix at the J.K. Cancer Institute was between 25.4% and 36.7% during 1971-76. Of all the genital malignancies the incidence of invasive carcinoma cervix was found to be 94.5%.

The etiology of cancer cervix is still unknown despite tremendous efforts being made in that direction.

The introduction of the colposcope by Hinselmann (1925) has proved to be an important diagnostic aid for a more comprehensive examination of the cervix.

Material and Methods

During the mass screening of female population attending the gynaecological and antenatal O.P.D. of U.I.S.E. Maternity Hospital, Kanpur, 1000 Patients (70 of them were pregnant) were found to have obvious cervical lesion by speculum

examination. All these patients were subjected to routine vaginal cytology. Out of these 200 cases who showed dysplastic changes or changes suspicious of malignancy were further subjected to colposcopic examination. Colposcopic examination was done by Varinex KLP/2 colposcope at the J.K. Cancer Institute, Kanpur. A biopsy was also carried in all these to confirm the diagnosis.

Observations and Discussion

One thousand patients attending the gynaecological and antenatal O.P.D. from January 1977 to March 1978 were screened. A 'PAP' smear for exfoliative cytology was collected in each of these cases. Two hundred smears showed evidence of varying grades of dysplasia and malignancy. These patients were subjected to colposcopic examination and cervical biopsy.

Out of the 200 cases, 5 were cases of cervical malignancy and 195 showed dysplasia on cytology. Colposcopically directed biopsy brought forth one more case of malignancy, thus making a total of 6 cases of malignancy.

Dysplasia (Table I) was found common in the age group of 30-39 years (50%) which was similar to Wahi *et al* (1969). Carcinoma cervix Preinvasive

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TABLE I
Relation of Age with Dysplasia and Malignancy

Age group in years	Total Cases		Dysplasia		Malignancy		Normal	
	No.	%	No.	%	No.	%	No.	%
20-29	80	8.0	16	1.6	—	—	64	6.4
30-39	460	46.0	98	9.8	1	0.1	361	36.1
40-49	300	30.0	58	5.8	4	0.4	238	23.8
50-59	120	12.0	16	1.6	1	0.1	103	10.3
60 & above	40	4.0	6	0.6	—	—	34	3.4

and invasive) was found most frequently in the age group of 40-49 years. Thus in the present series, dysplasia was observed to occur at an earlier age than malignancy. Similar findings were noted by Richart and Barron (1967) and Telinde and Mattingly (1972).

Dysplasia was observed (Table II) to be common among women having more than 3 children (79.5%). Only 2 cases of dysplasia were found in nulliparous women. Similar findings were noted by

Wahi *et al* (1969). All patients with carcinoma cervix were found to have more than 3 children. Das (1961) and Shaw (1975) also reported similar findings in their studies.

On speculum examination, 126 cases of dysplasia (Table III) had cervical erosion (64.26%) whereas carcinoma cervix presented either as an unhealthy cervix, ulcer on the cervix or a friable growth.

On cytological examination, there were 5 cases of (Table IV) frank malignancy

TABLE II
Relation of Parity with Dysplasia and Malignancy

Parity	Total Cases		Dysplasia		Malignancy		Normal	
	No.	%	No.	%	No.	%	No.	%
Nil	52	5.2	2	0.2	—	—	50	5.0
1-2	220	22.0	36	3.6	—	—	184	18.4
3-4	450	45.0	90	9.0	2	0.2	358	35.8
5-6	220	22.0	52	5.2	2	0.2	166	16.6
6 & above	58	5.8	14	1.4	2	6.2	42	4.2

TABLE III
Relation of Various Clinical (Perspeculum) Findings with Dysplasia and Malignancy

Perspeculum findings	Total cases		Dysplasia		Malignancy		Normal	
	No.	%	No.	%	No.	%	No.	%
Healthy	36	3.6	—	—	—	—	36	3.6
Erosion	680	68.0	126	12.6	—	—	554	55.4
Bleeding on touch	72	7.2	24	2.4	2	0.2	46	4.6
Nodule	30	3.0	4	0.4	—	—	26	2.6
Induration	96	9.6	24	2.4	—	—	72	7.2
Ulcer	62	6.2	14	1.4	—	0.2	46	4.6
Friable growth	24	2.4	2	0.2	2	0.2	20	2.0

TABLE IV
Various Findings on Exfoliative Cytology in
Mass Screened of Females (1000 Cases)

S. No.	Cytological findings	Number	Percentage
1.	Negative	312	31.2
2.	Infections (acute and chronic)	434	43.4
3.	Dysplasia (grade I, II, III)	196	19.6
4.	Positive for malignancy	4	0.4
5.	Unsatisfactory	34	3.4
Total		1000	100

and 195 cases of dysplasia. The incidence of dysplasia thus being 19.5%. The incidence of malignancy in the present series (on cytology alone) was 5/1000. Nawala Khat and Mathur (1977) have also reported an incidence of 5/1000, while Wahi *et al* (1972) and Miller *et al* (1961) have reported somewhat lower figures (around 3.8/1000), Luthra (1970) has reported a higher incidence.

Schiller's test was negative in 43% cases and was positive in the remaining 57% (Table V). Five cases which were

TABLE V
Schiller's Test Findings in 200 Cases Before
Colposcopic Examination

Findings	No.	Percentage
Positive	114	57
Negative	86	43
Total	200	100

negative on Schiller's test were later diagnosed to have malignancy by histopathology. These findings are similar to those of Richart *et al* (1967) who also found Schiller's test to be helpful in colposcopy.

The colposcopic findings are described in Table VI. Out of the 100 cases show-

TABLE VI
Various Colposcopic Findings

Sl. No.	Findings on Colposcopy (200 cases)	Number	Percentage
1.	Normal colposcopic findings (Fig. II)	26	13
2.	Abnormal atypical transformation zone (Fig. I)	90	45
3.	Miscellaneous—		
	Atropic	12	6
	Erosion	43	21
	Inflammatory	16	8
4.	Unsatisfactory	14	7
Total		200	100

ing dysplasia and malignancy by cytology, colposcopically 45% had atypical transformation, 6% atrophic, 21% erosion, 8% inflammatory changes; 13% had normal colposcopic findings, while in 7% the examination was unsatisfactory. We found Schiller's Iodine test which was done in all patients subjected for colposcopy to be very useful. Out of the 45 cases which showed atypical transformation zone, 43 were negative by Schiller's Iodine test. All the 5 cases of malignancy showed atypical transformation zone by colposcopy and were Schiller's negative. Colposcopy was found useful in directing biopsies. Biopsies were chiefly done from the atypical transformation zone and Schiller's negative area (Table VII). This avoids multiple biopsies. Our findings are similar to that of Scott and Brass

TABLE VII

Various Histopathological Findings in Cervical Biopsy Following Colposcopic Examination

Sl. No.	Findings	Number	Percentage
1.	Normal	24	12.4
2.	Chronic cervicitis	122	61
3.	Tubercular cervical	10	5
4.	Preinvasive malignancy	4	2
5.	Invasive malignancy	6	3
6.	Erosion	34	17
Total		200	100

(1969) and support the view that colposcopy and cytology are not competitive methods of diagnosis, but are supplementary to each other.

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See Figs. on Art Paper V