

Original Article

One Year Prospective Study on Uterine Cervix: CIN-III Associated with Microinvasive Squamous Cell Carcinoma of Cervix

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Abstract

Background: *Microinvasive squamous cell carcinoma of the uterine cervix is purely diagnosed by microscopic findings only. It has been poorly defined in the past and till today it is a focus of persistent controversy.*

Aims and Objective: *To determine the histomorphological features in Cervical Intraepithelial Neoplasia grade III (CIN-III) coexistence with Microinvasive squamous cell carcinoma of uterine cervix.*

Materials and Methods: *This is a prospective study. Post operatively all the hysterectomy specimens were included in this study. These specimens were sent to histopathology lab for microscopic study. CIN-III diagnosed cases were taken in the present study to find out the coexistent microinvasive squamous cell carcinoma of uterine cervix.*

Results: *Total cases for study were 270 hysterectomy specimens, out of which 63 were diagnosed as CIN-III and out of which seven cases were associated with microinvasive squamous cell carcinoma of uterine cervix.*

Conclusion: *To conclude all the hysterectomy cases should be histopathological examined properly to exclude the association of microinvasive squamous cell carcinoma of uterine cervix with CIN-III.*

Keywords: *Hysterectomy specimens, Microinvasive squamous cell carcinoma of uterine cervix, CIN-III.*

BACKGROUND

Microinvasive squamous cell carcinoma of the uterine cervix is purely diagnosed by microscopic findings only. It has been poorly defined in the past and till today it is a focus of persistent controversy. International Federation of Gynecology and Obstetrics (FIGO) IN 1985 defined stage 1A, 1A1 and 1A2 as following:

“preclinical invasive carcinoma, diagnosed by microscopy only,” as Stage 1A and subdividing into “minimal microscopic stromal invasion,” as Stage 1A1 and “tumor with invasive component 5 mm or less in depth taken from the base of the epithelium and 7 mm or less in horizontal spread” as Stage 1A2.

The aim of present study was to identify histomorphological features in cases of CIN-III and any coexistence or association with microinvasion squamous cell carcinoma of uterine cervix. On the basis of cytogenetic studies, there is some indication that CIN-III is heterogeneous in terms of risk of progression to cancer. ^[1,2] Invasive squamous cell carcinoma of the uterine cervix are thought to be preceded by the metaplasia-intraepithelial neoplasia sequence. ^[3,4]

MATERIALS AND METHODS

This present prospective study was done for one year. The aim of this prospective study was to identify CIN-III cases microscopically and to find any association or coexistence with microinvasion squamous cell carcinoma of uterine cervix.

Inclusion criteria: All the hysterectomy specimens which were received in histopathology department were included in the study

Exclusion criteria: amputated cervix specimens and cervical biopsies were excluded from the study.

Post operatively all the hysterectomy specimens which were received in the department of histopathology were fixed in 10% formalin. After fixation the gross examination was done and bits were taken for microscopic examination from the cervix, endometrium, myometrium and also from any pathologically suspicious area. These tissue bits were processed in automatic tissue processor and embedded, the sections were taken on to the slides and stained with Hematoxylin and eosin. These sections were studied under microscope for histopathological diagnosis.

RESULTS

Post operatively the department of histopathology received 270 hysterectomy specimens from department of gynecology and obstetrics. Out of 270 specimens which were examined microscopically CIN-III were found in 63 cases. These 63 cases sections were studied thoroughly under microscope; which revealed association or

coexistence with microscopic squamous cell carcinoma of cervix in seven cases.

Out of these 63 diagnosed CIN-III cases, 21 specimens showed coexistence with Adenomyosis and 11 hysterectomy specimens showed the features of CIN-III with cervical poly. The features of leiomyoma were associated in nine cases of CIN-III and seven cases were coexisted with features of microinvasive squamous cell carcinoma of uterine cervix. The age group of all these seven cases which were associated with microinvasive carcinoma was between 40 years to 60 years. (Table 1) shows the associated or coexisted lesions with CIN-III.

In the present study the department of gynecology and obstetrics revealed that the most common surgical indication for which the hysterectomy operation done was uterine prolapse followed by fibroid uterus. Table 2 shows the list of surgical indications

Table 1: Showing the associated lesions with CIN-III

S.No	Associated lesions with CIN-III	Number of cases	percentage
1	Microinvasive squamous cell carcinoma of uterine cervix	7	11.11 %
2	Adenomyosis	21	33.33 %
3	Cervical polyp	11	17.46 %
4	Leiomyoma	9	14.28 %
5	Leiomyoma and Adenomyosis	3	04.77 %
6	No association with other lesions	12	19.05 %

Table 2 : showing the list of surgical indications for hysterectomy

S.No	Surgical Indication	Number of cases	percentage
1	Uterine prolapse	153	56.67 %
2	Fibroid uterus	72	26.66 %
3	Chronic cervicitis with cervical erosion	09	3.33 %
4	Dysfunctional uterine bleeding	29	10.75 %
5	Pelvic inflammatory disease	04	1.48 %
6	Endometriosis	03	1.11 %

DISCUSSION

This is one year prospective study done in a teaching hospital. Microinvasive squamous cell carcinoma of the uterine cervix is purely

diagnosed by microscopic findings only. The incidence of microinvasive squamous cell uterine cervical carcinoma is increasing steadily in 4th and 5th decade of women life and approximately 60 – 70 % females have stage 1A1 disease. [5] similarly in the present study the incidence of associated CIN-III with microinvasive squamous cell carcinoma of cervix was between 40 years to 60 years of age.

The lesion of microinvasive squamous cell carcinoma of uterine cervix invades the stroma upto 3mm or less; the depth of stromal invasion was measured from the base of the epithelium, from which it originates to the deepest point of invasion. Either the epithelium can be squamous or glandular, in which there is no evidence of lymph vascular space invasion. [6,7] In our present study the depth of stromal invasion was measured by ocular micrometer and all the seven cases showed the invasion less than 3 mm.

Anderson and Hartley^[8] stated that more than 80% of CIN-III cases had some crypt involvement. Abdul-Karim et al in their study stated that greater the extent of the surface and crypt involvement was seen in the higher grade of the cervical intraepithelial neoplasia. [9] In review of literature it was shown that deep endocervical gland involvement by CIN-III is a highly significant predictor of recurrent disease or residual diseases. [10] Similarly in our present study endocervical crypt involvement was seen in almost all the CIN-III cases.

Histopathological features includes cellular pleomorphism with islands of well differentiated squamous cells were present at all levels of the epithelium, other microscopic features like individual cell keratinisation, nucleoli present in a few cells and also pyknosis. Ng ABP et al and Sedlis A et al stated and reported that CIN-III was seen adjacent to microinvasive squamous cell carcinoma of cervix in their study. [11,12] In the present prospective study similar microscopic features were seen in all the seven cases of CIN-III associated with microinvasive squamous cell carcinoma of uterine cervix.

CONCLUSION

To conclude in the present one year prospective study there were seven cases of CIN-III associated with microinvasive squamous cell carcinoma of uterine cervix. When a case of CIN-III was diagnosed it should be histopathological examined properly to exclude the association of microinvasive squamous cell carcinoma of uterine cervix. Serial sections or deeper sections should be taken and processed from both the lips of cervix while doing gross examination of hysterectomy specimens. In these coexistence or associated cases of CIN-III with microinvasive squamous cell carcinoma of cervix, the patients needed a closer and regular clinical follow up.

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