

**COEXISTENCE OF MICROINVASIVE SQUAMOUS CARCINOMA AND CIN3 IN THE UTERINE CERVIX**Kudupudi Subba Rao<sup>1</sup>, Siva Ranjan D<sup>2</sup>, M. Neethika<sup>3</sup>**HOW TO CITE THIS ARTICLE:**

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**ABSTRACT:** Microinvasive squamous cell carcinoma of the cervix has been poorly defined in the past and is still a focus of persistent controversy. Aims: To determine the histological features in Cervical Intraepithelial Neoplasia grade 3 (CIN3) associated with Microinvasion squamous cell carcinoma of cervix. Methods: This is one year prospective study. All the hysterectomy specimens were studied histologically and the CIN 3 cases were taken in the study to find the associated microinvasive squamous cell carcinoma of cervix. Results: Out of 310 hysterectomy specimens, 54 were diagnosed as CIN 3 out of which 6 cases showed coexistence of microinvasive squamous cell carcinoma of cervix. Conclusion: When the features of CIN3 present in a biopsy specimen, serial sections should be performed to exclude the presence of microinvasion carcinoma of cervix.

**KEYWORDS:** CIN 3, Microinvasive squamous carcinoma, hysterectomy specimens.

**INTRODUCTION:** In 1985, the International Federation of Gynecology and Obstetrics (FIGO) defined Stage IA as "preclinical invasive carcinoma, diagnosed by microscopy only," subdividing it into Stage IA1 or "minimal microscopic stromal invasion," and Stage IA2 or "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."

Most cases of invasive squamous carcinoma of the cervix are thought to be preceded by the metaplasia-intraepithelial neoplasia (CIN) sequence.<sup>1, 2</sup> There is some indication, on the basis of cytogenetic studies, that CIN3 is heterogeneous in terms of risk of progression to cancer.<sup>3, 4</sup> The aim of this study was to identify histological appearances in cases of CIN3 and any association with microinvasion carcinoma of cervix.

**METHODS:** This is a one year prospective study. The aim of this study was to identify CIN3 cases and any association with microinvasion carcinoma of cervix. All the hysterectomy specimens which were received in the department of pathology were fixed overnight in 10% formalin. The bits were taken from the cervix, endometrium and myometrium. The tissue bits were processed, stained with H&E and studied microscopically.

**RESULTS:** Out of 310 hysterectomy specimens, 54 cases were diagnosed as CIN 3 out of which 6 cases of CIN 3 showed coexistence of microinvasive squamous cell carcinoma of cervix. The surgical indications for hysterectomies were shown in (Table 1). The most common surgical indication was uterine prolapse.

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Surgical indications	Number of cases	Percentage
Uterine prolapse	152	49 %
Fibroid uterus	71	22.9%
Dysfunctional uterine bleeding	41	13.3%
Chronic cervicitis with cervical erosion	36	11.6%
Others	10	3.2%

Table 1

The age wise distribution of CIN3 cases were shown in the (Table-2). Most of the CIN3 cases were in the age group of 51 to 60 years. The five cases of associated microinvasive carcinoma of cervix with CIN 3 were in the age group of 51 to 60 years and remaining one case the patient was a 64 year old woman.

Age in years	Number of cases	Percentage
<20	0	0
21-30	07	12.9 %
31-40	09	16.8%
41-50	11	20.3%
51-60	19	35.2%
>60	08	14.8%

Table 2

Out of 54 CIN 3 cases, 6 cases (11.12%) showed the coexistence of microinvasive squamous cell carcinoma of cervix, 2 cases showed coexistence with leiomyoma in myometrium and 2 cases with Adenomyosis. It was shown in (Table 3).

Coexistence with CIN3	Number of cases	percentage
Microinvasive carcinoma of cervix	6	11.12 %
Leiomyoma	2	3.7%
adenomyosis	2	3.7%
Nil	44	81.48 %

Table 3

**DISCUSSION:** "Microinvasive Carcinoma of cervix is defined as a lesion that invades the stroma to a depth of 3-0 mm or less, and in which there is no evidence of lymphatic space invasion".<sup>5,6</sup> Foci of microinvasion were identified by squamoid differentiation in groups of cells separated from or protruding through the basement membrane of areas of CIN3. (Figure 1) The depth of stromal invasion was measured using an ocular micrometer; the measurement was made between the deepest part of the invasive focus and the basement membrane of the overlying epithelium.

Review of literature tells that Anderson and Hartley<sup>7</sup> found that (88'6%) of CIN3 had some crypt involvement; Abdul-Karim et al found that the higher the grade of the CIN the greater the extent

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of the surface and crypt involvement,<sup>8</sup> and Demopoulos et al have shown that deep endocervical gland involvement by CIN3 is a highly significant predictor of residual or recurrent disease.<sup>9</sup>

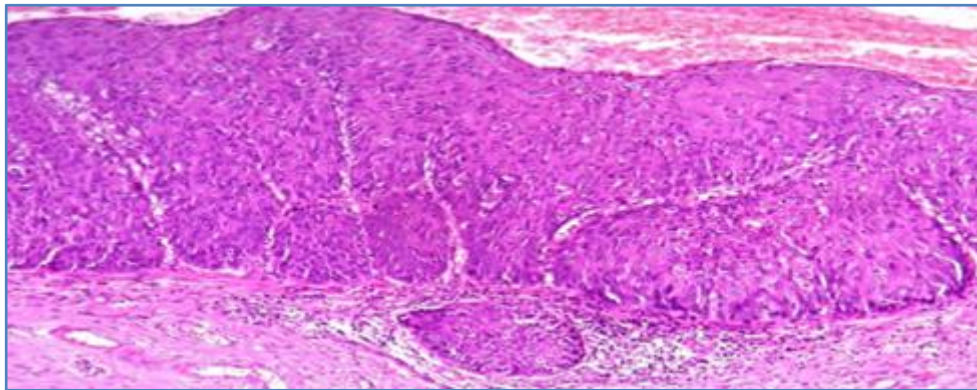
Another important feature highlighted by the present study was distension or expansion of the involved endocervical crypts or surface epithelium. In 3 cases showed CIN3 with endocervical extension (Figure 2).

Microscopic study and Changes in the cytological appearance of CIN3 adjacent to microinvasive carcinoma have been reported before.<sup>10, 11</sup> These include: islands of well differentiated squamous cells present at all levels of the epithelium; disorganized cellular polarity; cellular pleomorphism; presence of nucleoli in some cells; frequent pyknosis; and individual cell keratinisation. In the present study all the similar features were seen in all the six cases.

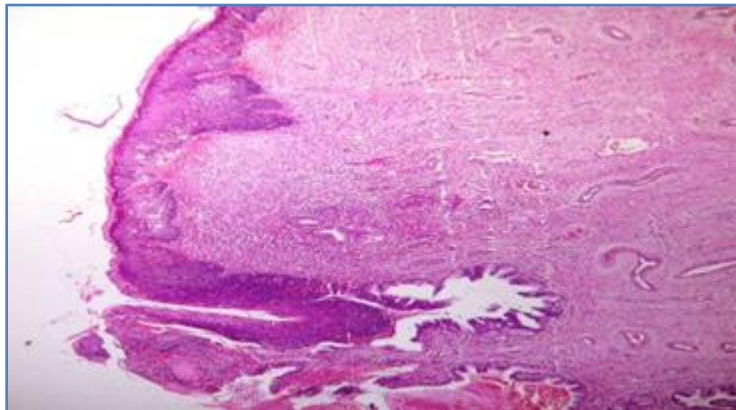
**CONCLUSION:** In conclusion, this present study shown that the CIN3 with microinvasive carcinoma of cervix is seen in six cases (11.12%) of CIN 3 diagnosed cases. It also highlights the potential importance of recognizing certain features in CIN3 which suggest incipient microinvasion. When CIN3 features are present in hysterectomy specimens, serial sections should be taken from the both lips of the cervix and examined microscopically to exclude the presence of microinvasion squamous cell carcinoma of cervix. Closer clinical follow up of these patients may be needed.

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**Figure 1: CIN 3 with Microinvasive squamous cell carcinoma of cervix (H&E X100)**



**Figure 2: CIN3 with endocervical extension (H&E X40)**

**AUTHORS:**

1. Kudupudi Subba Rao
2. Siva Ranjan D.
3. M. Neethika

**PARTICULARS OF CONTRIBUTORS:**

1. Associate Professor, Department of Obstetrics and Gynaecology, Konaseema Institute of Medical Sciences.
2. Assistant Professor, Department of Pathology, Konaseema Institute of Medical Sciences.
3. Junior Resident, Department of Dental Surgery, Konaseema Institute of Medical Sciences.

**NAME ADDRESS EMAIL ID OF THE CORRESPONDING AUTHOR:**

Dr. Siva Ranjan,  
H. No. C-108, Phase 2,  
Hill Colony, Vanasthalipuram,  
Hyderabad – 500070.  
E-mail: avis.reddy@gmail.com

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