

# Study Of Cervical Screening For Women Under Age Of 25 Years Old, A Retrospective Data Analysis

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## Abstract

In this retrospective study, we looked into the number of women under 25 years old who had CINIII and the intervention rate. We looked into the percentage of abnormal smears, number of women under 25s referred to Colposcopy clinic, number and percentage of patients with CIN, number of patients diagnosed with micro-invasive and advanced stage Cervical Cancer. Out of 12132 cervical smears performed over 5 years for women under 25s, 81 women had CIN III (801 referred to Colposcopy). This study highlights that high grade lesions and CINIII in particular are common in the age group 20-24 and can occur at very young age.

## INTRODUCTION

In year 2004 the new guideline for cervical screening was introduced in England. One of the key changes is the increase of first smear age from 20 to 25years old<sup>1</sup>.

The stated rational behind changing the age of first smear to 25, is the incidence of cervical cancer is very small below age of 25. The incidence of cervical cancer in ages 20-24 in year 2006 was 3.2/100000 with overall 63cases of invasive cancer in England and Wales<sup>2</sup>. The incidence of cervical cancer in ages 25-29 in year 2006 was 13.6/100000 with overall number of cases of 261 (in comparison with incidence of 9.9 /100000 with overall number of 180 in years 2004). Nationally, 1.7% of cervical cancer in women aged 20-69 occur below age of 25 years old<sup>3</sup>. In spite of the cervical smear abnormal findings below age of 25 is frequent (almost one in six smears) most of these changes regress.<sup>4</sup> In this retrospective data analysis study over 4 years and 9 months before the implementation of the new guidelines, we tried to assess the benefit versus the morbidity of performing cervical smears in females below age of 25 years old. We looked into the percentage of abnormal smears, number of women under 25s referred to Colposcopy clinic, number and percentage of patients with CIN, number of patients diagnosed with micro-invasive and advanced stage Cervical Cancer

women below the age of 25 years old during the period from January 2001 to September 2005 were collected from the cytology department of the Countess of Chester Hospital. The details and outcome of the patients from this age group who attended the Colposcopy clinic were collected from their clinical records. The data were analysed with the use of MINITAB 14 medical statistics analysis software and the help of research and audit department in the Hospital.

## RESULTS

During the period of the study 12,132 cervical smears were performed on 9532 women below the age of 25years old. Out of the total number of smears performed 8525 (70.2%) showed negative results. 1690 (13.9%), 971(5.5%) and 945(7.8%) were inadequate, borderline and mild abnormality respectively. Also, 262 (2.1%), 38 (0.31%) and one (0.01%) were moderate, severe and glandular changes respectively. 801 women under 25 were referred to the Colposcopy clinic.

## DATA COLLECTION AND ANALYSIS

The numbers and details of cervical smears performed on

**Figure 1**

Table 1. Screening Smear details

Number		Percentage
Total	12132	100%
Negative smear	8525	70.20%
Inadequate	1690	13.90%
Borderline	671	5.50%
Mild	945	7.80%
Moderate	262	2.10%
Severe	38	0.31%
Glandular	1	0.01%
? Invasive	0	0.00%

**Figure 2**

Table 2. Referral smear details and ages

Referral Smear Details	Ages								Grand Total
	17	18	19	20	21	22	23	24	
ABNORMAL UNCLASSIFIABLE							1	2	3
BORDERLINE CHANGES	1		11	21	43	24	31	38	169
INADEQUATE SPECIMEN				4	11	12	15	21	63
MILD DYSKARYOSIS	1	8	11	52	70	61	54	52	309
MODERATE DYSKARYOSIS	2	2	10	46	34	28	36	51	209
NO SMEAR	1		2	1	1	1	2	5	13
NORMAL SMEAR		1	3		2		2	1	9
QUERY GLANDULAR NEOPLASIA				1					1
SEVERE DYSKARYOSIS			1	1	3	5	4	7	25
Grand Total	5	12	38	128	166	130	148	174	801

779 referred with abnormal smear, 22 with clinical indication or suspicious symptoms with no associated abnormal smear ( 13 with no smear details, and 9 with normal smears).

The total number of visits to the Colposcopy clinic for the 801 women was 1383 visits.

**Figure 3**

Table 3. Age distribution and total number of attendances

Age	Visit number						Grand Total
	1	2	3	4	5	6	
17	5	2				1	8
18	12	5	4				21
19	38	17	3				58
20	128	40	12	2	1		183
21	166	97	23	3			289
22	130	101	32	13	1	1	278
23	148	80	22	5	3	1	259
24	174	83	22	7		1	287
Grand Total	801	425	118	30	5	4	1383

The total number of Biopsies performed was 938 biopsy, including excision, directed and random biopsies. 671 women had biopsies (83.7% of total number of women referred). 242 Large loop excisions of transformation zone biopsies (LLETZ) were performed on 241 patients. Out of the 242 biopsies, 18 Biopsies showed normal findings with no evidence of CIN or malignancy (7.4%). One biopsy showed borderline changes, 40(16.5%) and 101(41.2%) biopsies showed CIN I and CIN II respectively. CIN III was

found in 81 excision biopsies (33.4% of the total number of excision biopsies and 10% of women referred to the Colposcopy Clinic). 311 women had cold coagulation procedures for persistent low grade CIN. One woman with asymptomatic micro-invasion was diagnosed at age of 23. One patient had advanced stage 1b1 Adenosquamous Cancer who was referred with moderate dyskaryosis smear and a history of postcoital and inter-menstrual bleeding.

Figure 1. CIN III incidence and percentage (%) in relation to number of women referred in each age group to Colposcopy clinic.

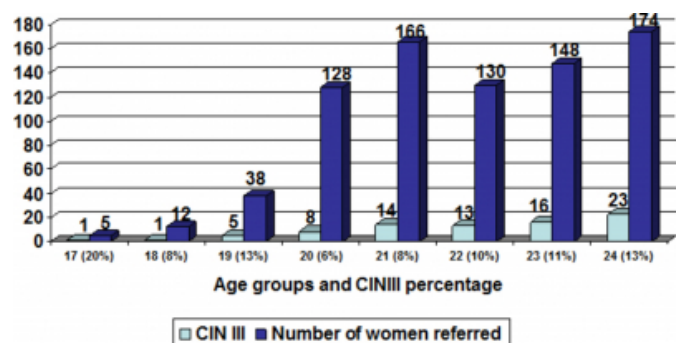
## DISCUSSION

The previous results show high percentage of excision biopsy performed, which is generally in line with the BSCCP guidelines for the management of high grade abnormality ( CIN II or above). In this study we found that the incidence of CIN III is 8.4/1000 of the total women screened. This is higher than the national figures quoted for the incidence of CIN III in 20-24 age group (1.45 and 2.38/1000 in years 1993 and 2000 respectively) 5. Also, it is higher than the incidence of CIN III in any other age group (3.0/1000 in the age group 25-29, 2.2/1000 in the age group 30-34 and is 1.2/1000 in the age group of 35-39)5.

Our study also showed that the age distribution for these patients with CIN III is more or less evenly distributed along the ages from 20 to 24 years old.

**Figure 4**

Figure 1, Shows the percentage and distribution of CIN III incidence in each age group referred to Colposcopy clinic from age 20 to 24 years old.



From our practical experience, sometimes we find patients from different age groups develop invasive cancer over a short period of time even with previous history of normal screening smears. This is due to the fact that the sensitivity of a smear test is recognised as approximately only 40-70% and repeat smears increase the chances of picking up

abnormalities before it is too late to treat. 4 Knowing that the pick up rate of young females to smear tests is only around 70% adds to the delay in diagnosing the pre-invasive abnormality which might already have existed since the teenage years. Consequently, if the first age of cervical smear to 25 years old, means that there will be further delay in diagnosing and treating CIN III lesion with an increasing chance of developing micro-invasive/invasive cancer at the age of diagnosis.

The natural history of progression of CIN III is not well understood in the literature. Most of the figures quoted from the studies were done in the 1990s.<sup>6</sup> reported 12 % progression of CIN III to invasive cancer and 50-55% persistence.

It is clear that the intervention with large loop excision of transformation Zone to cervical abnormality in this young age group below 25 years old is not without short and long term morbidity and psychological trauma. A recent meta-analysis published in the Lancet Feb. 2006<sup>7</sup> showed statistically significant increase in the incidence of preterm labour and preterm premature rupture of membranes with all types of excision biopsies. But on the other hand there is evidence that the incidence of CINIII in this age group is

rising.

## **CONCLUSION**

This study highlights the fact that high grade lesions in the cervix and CINIII in particular are common in the age group 20-24 and can occur at very young age.

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