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Compliance with follow up cytology after discharge from the colposcopy clinic.

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Citation
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Abstract

Cervical cancer represents the second common cancer in women and is a major public health issue in Ireland and worldwide. Despite appropriate treatment of precancerous lesions, women with dysasia are at relatively increased risk, and require follow up. We aimed to evaluate the compliance rate with follow up cytology advice given to patients discharged from the colposcopy clinic and to identify predictive factors for poor compliance. This is a retrospective cohort study of patients initially managed in our institution in 2001. Patients were evaluated for adherence with the recommendations received at the time of discharge from the clinic. Of the 116 women that were initially contacted, 100 agreed to participate in the study (86% response rate). Slightly women (60%) were entirely compliant. While older patients (>40 years) were significantly less likely to show complete compliance (OR: 0.12; 95% CI: 0.02-0.58; p=0.009).

Methods

Data from 660 patients who attended the colposcopy service at the CWH (Coombe Women’s Hospital) during 2001 was reviewed. A total of 326 “new” patients (first-ever attends in a colposcopy clinic) with proven CINs in 2001 who were then discharged before 2007 were initially eligible. At the time universal practice following a LLETZ treatment was that a patient should have two normal smears to return to yearly CYTOLGY follow-up for 10 years; the smears could be either obtained at the GP or at CWH smear clinic. If only biopsies were obtained, then two or three consecutive smears at CWH in six month intervals were essential for returning to community cytology screening; if an abnormal smear was obtained, the patient returned to the colposcopy clinic. Patients who had a subsequent hysterectomy were excluded from the study (n=8). Patients’ data were documented. In addition, the patients’ age, smoking status and parity were systematically recorded.

Of the 318 eligible patients 116 patients were successfully contacted by telephone and asked to participate in the study. 212 patients were lost to follow up (moved from their previous address or changed telephone number); no statistical differences observed regarding age, parity, smoking, referral smear, diagnosis and procedure performed (LLETZ / Biopsy) or grade of CIN between patients who could not be contacted and others. A Research Assistant conducted the telephone survey using a series of identical questions to each patient. Participating patients were asked about the number, dates and results of cervical smears since they were discharged from the colposcopy clinic. Subsequently their cytology was confirmed by checking their medical record & GP letters. Women who had regular cervical smears as recommended were considered as entirely compliant. Women who had sporadic cervical smear were considered as poorly compliant while those who had no smears were considered as non compliant. This study was approved by the hospitals Research Ethics committee. Data were analyzed using the Fisher’s exact test, the Chi-square test and logistic regression. Median values were compared using the Anova test. All reported p values are two-sided and are not adjusted for multiple testing. A value of p < 0.05 was considered as significant.
Data are expressed as numbers with percentages in brackets (%) unless otherwise indicated.

BNA: Borderline Nuclear Abnormality; CIN: Cervical Intraepithelial Neoplasia; DNA: Did Not Attend; LLETZ: Large Loop Excision of the Transformation Zone.

* Suspicious looking cervix or post-coital bleeding
** Duration of the clinical and colposcopic management in our institution before discharge
*** Did Not Attend to at least one of their appointment during the time they were followed-up in our institution
† Anova test
‡ Chi-square test
¥ Fisher’s exact test

Results
Of the 116 patients contacted by telephone, 100 women were interviewed and answered the questionnaire (86.2% response rate); among those 45 presented with mild dyskaryosis (CIN1) and 55 with severe dyskaryosis (CIN2-3). Patients’ characteristics are summarised in Table 1. Cervical biopsies had been performed in 34 cases. A total of 63 women underwent a LLETZ procedure. Spontaneous regression of CIN1 to normal was observed in 34 (75.6%) women. LLETZ was performed in the remaining 11 (24.4%) who had persistent CIN1 after a median follow up of 15.8 months (range 3.8 - 45.8 months). Fifty-two patients with CIN2-3 (94.5%) had LLETZ. Two women with cytology and a colposcopic impression of CIN2 spontaneously regressed to normal after 17.1 and 26.5 months of follow up respectively. One woman with a smear and biopsy of CIN 2 regressed spontaneously after 10.6 months.

Among the respondents, 60 women had regular cervical smears as recommended and were considered entirely compliant. One of these was referred back to the colposcopy clinic after receiving two consecutive CIN3 smears; she was subsequently treated. Two women had CIN1 in their recent smear tests. One with a persistently abnormal smear was referred by her GP to another colposcopy clinic. A total of 4 women out of 60 were diagnosed with residual or recurrent CIN.

Figure 1: Odds ratios for age as an effect on patient compliance with cytological follow up advice after the management of CIN (n=100).
Table 2: Effect of different variables on compliance with cervical follow up advice (n=100).

<table>
<thead>
<tr>
<th>Variable</th>
<th>OR</th>
<th>95% CI</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt; 30 years</td>
<td>0.92</td>
<td>0.87-0.97</td>
<td>0.004</td>
</tr>
<tr>
<td>&gt; 40 years</td>
<td>0.27</td>
<td>0.12-0.64</td>
<td>0.003</td>
</tr>
<tr>
<td>Parity</td>
<td>0.12</td>
<td>0.02-0.58</td>
<td>0.009</td>
</tr>
<tr>
<td>Plany</td>
<td>0.84</td>
<td>0.64-1.12</td>
<td>0.59</td>
</tr>
<tr>
<td>Current smoker</td>
<td>0.79</td>
<td>0.35-1.77</td>
<td>0.57</td>
</tr>
<tr>
<td>Patient had a cervical biopsy</td>
<td>0.89</td>
<td>0.38-2.08</td>
<td>0.8</td>
</tr>
<tr>
<td>Patient had an LLETZ</td>
<td>0.81</td>
<td>0.35-1.84</td>
<td>0.61</td>
</tr>
<tr>
<td>Number of visits to the colposcopy clinic</td>
<td>1.19</td>
<td>0.87-1.64</td>
<td>0.28</td>
</tr>
<tr>
<td>Duration of follow up*</td>
<td>1</td>
<td>0.90-1.01</td>
<td>0.688</td>
</tr>
<tr>
<td>DNA**</td>
<td>1.05</td>
<td>0.44-2.63</td>
<td>0.460</td>
</tr>
<tr>
<td>Final diagnosis</td>
<td>1</td>
<td>0.45-2.24</td>
<td>1</td>
</tr>
</tbody>
</table>

Data are expressed as numbers with percentages in brackets (%) unless otherwise indicated. DNA: Borderline Nuclear Abnormality; CIN: Cervical Intraepithelial Neoplasia; DNA: Did Not Attend; LLETZ: Large Loop Excision of the Transformation Zone.

** Suspending leaking cervix or post-coital bleeding
* Duration of the clinical and colposcopic management in our institution before discharge
*** Did Not Attend to at least one of their appointment during the time they were followed-up in our institution
† Anova test
‡ Chi square test
§ Fisher’s exact test

Eleven women (11%) had no follow up smear since discharge. Another eleven women (11%) had at least 2 smears and were aware of the normal results. The remaining 18 women (18%) had only one smear performed for variable reasons, the results have not been communicated to several of them; most however had arbitrary assumed it was normal. Despite advice given on discharge, a significant proportion of women (40%) were unaware of the importance of compliance and four women (3%) assumed that since they were discharged from the colposcopy clinic there was no need for further follow up. The mean time of follow up after discharge from our clinic was 42.3 months (range, 8-74.9), with no significant difference between women who achieved perfect compliance and those with poor or non-compliance: 42.3 months (range 18.4-71.8) and 42.8 months (range, 8-74.9) respectively (p=0.774). Older women were significantly less likely to be entirely compliant with cytology follow up advice OR=0.92; 95% CI=0.87-0.97; p=0.004 (Table 2). The proportion of entirely compliant women diminished significantly with age. Women above 30 and 40 years were less likely to achieve perfect compliance: OR=0.27, 95% CI=0.12-0.64; p=0.003 and OR=0.12, 95% CI=0.02-0.58; p=0.009, respectively (Figure 1). No association observed between the compliance rate and parity, smoking status, number of visits to the clinic, type of procedure or grade of CIN.

Discussion

Only 60% of patients proved entirely compliant. Poor compliance following discharge from the colposcopy clinic is not without implications. According to Soutter et al’s analysis of pooled data on women 8 years after treatment, the risk of invasive disease after conservative treatment of CIN is 4 to 5 times higher than in the general population and this risk does not appear to reduce over time. Being at a relatively increased risk these patients should be cognisant of their need for regular and prolonged follow up. Freely cytology post discharge from colposcopy for 5 to 10 years is commonly recommended. The addition of colposcopy in the patient work-up after the initial post treatment review has been debated and is not universally employed, possibly because of its poor specificity.

To date, very little data on patient compliance and behaviour after CIN management has been published. Besides changing time-trends in surveillance guidelines, poor patients’ adherence to the advised follow up protocol represents a common issue also documented in other publications. Cristiani et al. reported a 21% rate of patients who defaulted from follow up; in their study 43% were suboptimally followed up. Greenman et al recently reported an overall compliance rate as low as 55.6% for the very first year and 43.7% thereafter, respectively. The findings of this study have several possible implications. As far as we are aware, this is the first study to report an association between age and compliance. It was not surprising to us that younger patients appeared to be relatively more compliant as younger individuals have better access to internet resources and are usually concerned about fertility issues. But, as our advice at the time was largely verbal, this might be also explained by differences in physicians’ attitudes, and their approach while counselling younger women. The introduction of leaflets in CWH’s colposcopy clinics with concise information written in lay terms in the mid-2000’s partially addressed this issue. Older women’s relative inability to clear HPV infection as age advances, as well as fundamental changes in the transformation zone that parallel estrogen decline, multiply cancer risk in this very group that is more likely to default.

There is an urge to improve the awareness of patients regarding their risk of recurrence and the need for follow up compliance. A number of strategies for ensuring better compliance could be considered, for example reminder letters, telephone calls or short message service (SMS). The use of information’s leaflets has been conclusively shown to improve women’s knowledge of abnormal smears and colposcopy services. The National screening programme is currently in place with the ability to remind women of their next smear due date instead helps contextualise the findings. Finally, our study is limited by standard biases inherent to retrospective analysis and by the limitation of our small study sample. Moreover, since our study took place in a single clinical setting it is possible that variations in the management of patients and the information provided to the patients among different physicians in the colposcopy clinic should have minor impact as all adhered to the current ESGCP guidelines of the time.

Acknowledgments

We are extremely grateful to all women who participated in this study. Our thanks also to all the staff of our colposcopy clinic who participated in the clinical management of patients and collection of clinical data, particularly to Mary Martin and Sinéad O’Shea.

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References


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