

## Clinico-pathological study of cervical polyps

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### Abstract

**Objective** To determine the incidence of malignancy in cervical polyps and determine the effect of age and parity on clinical presentation.

**Methods** A retrospective analysis of histological diagnosis and demographic information relating to 294 polyps was undertaken. Comparison was made between premenopausal and postmenopausal women as well as women with and without recurrent polyps.

**Results** There was no case of malignancy. Majority of the women were parous (71.8%), asymptomatic (65.9%) and had their polyps removed in the outpatient setting (69.9%). The recurrence rate was 12.6%. The predominant symptom was IMB/PCB. Women with recurrent polyps were 10 times more likely to be parous (OR = 10.1, 95% CI 1.4–74.8), 7.9 times more likely to have symptoms (OR = 7.9, 95% CI 3.5–17.1) and 4.8 times more likely to have polyps removed under general anaesthesia (OR = 4.8, 95% CI 2.4–9.9). Postmenopausal women were 2.2 times more likely to have symptoms (OR = 2.2, 95% CI 1.6–4.7) and 1.7 times more likely to have general anaesthesia (OR = 1.7, 95% CI 1.0–3.1).

**Conclusion** Cervical polyps are mainly benign, asymptomatic lesions and recur in about 12.6% of women. They are more likely to be symptomatic in postmenopausal women.

**Keywords** Cervical polyp · Polyp · Cervical smear · Postcoital bleeding · Intermenstrual bleeding · Postmenopausal bleeding

### Introduction

Cervical polyps are overgrowths of columnar epithelium of the cervix and occur in about 2–5% of women [1]. They are usually asymptomatic and often found at routine cervical smear tests. They can, however, cause symptoms such as intermenstrual, postcoital and postmenopausal bleeding as well as vaginal discharge.

It is common practice to remove these polyps whenever they are identified and the main reason for this is the concern over the potential for malignant transformation [2–5]. Other reasons for their removal include the presence of symptoms as well as requests from patients.

The incidence of malignant change in these polyps is thought to be low. This raises the question whether all polyps should be removed and subjected to histological examination, particularly in asymptomatic women [6]. Removal of polyps is not risk free. The potential problems include infection and bleeding as well as the risk associated with anaesthesia. In addition, a recent study [5] has shown that unnecessary removal of these polyps can have a significant impact on health care resources.

To date, there is limited information in the literature to provide guidance on the optimum management of asymptomatic cervical polyps. The aim of this study is to investigate the clinico-pathological and demographic factors associated with cervical polyps in the hope that this information would contribute to improvement in the management of cervical polyps.

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## Methods

The study sample consisted of cases identified from the Barnet and Chase Farm hospital pathology database between 1 October 2005 and 31 March 2007. The case records of these women were retrieved. The collected data included the histological diagnosis, age, parity, relevant past gynaecological history, mode of presentation, mode of treatment and complication.

The data were analysed using Stata statistical software package (Stata Corp., Texas, version 7.0). A comparison was made between premenopausal and postmenopausal women as well as women with and without recurrent cervical polyp. Categorical data were compared using the  $\chi^2$  or Fisher's exact test where appropriate. Continuous variables were compared using the Student *t* test or Mann–Whitney *U* test where appropriate. Significant differences between groups were quantified by calculating the odds ratios (OR) and 95% confidence intervals (CI).  $P < 0.05$  was considered to be significant.

## Results

There was a total of number of 320 histology reports and from this 294 (91.8%) case records were retrieved and analysed. Table 1 illustrates the characteristics of the women. The age distribution of the sample was between 25 and 94 years with a mean age of 49.3 years. There was no woman below the age of 25 years and the majority (39.8%) of the study sample were aged 25–45 years. 71.8% (211/294) of the sample population were parous, and 12.6% (37/294) had a previous history of polypectomy. The time interval between recurrences of polyp ranged between 2 and 5 years.

194 (65.9%) women had no symptoms at presentation. Of the 100 women that had symptoms, 55% presented with intermenstrual/postcoital bleeding, 32% with postmenopausal bleeding and 13% with menorrhagia. The majority [69.9% (204/294)] of the women had their polyps removed in the outpatient setting. There was no atypia, dysplasia or malignancy in any of the histology report. The mean maximum dimension of the polyp was 11.6 mm. The majority [62.9% (185/294)] were  $\leq 10$  mm. Only 8.6% were over 30 mm which included 2 polyps that measured 40 mm. No complication was reported following treatment.

Table 2 shows the comparison of the clinical features of women with recurrent polyps and those without recurrence. Significantly, women with recurrent polyps were more likely to be perimenopausal ( $P = 0.01$ ) and parous (OR = 10.1, 95% CI 1.4–74.8,  $P < 0.001$ ). They were also more likely to have symptoms (OR = 7.9, 95% CI 3.5–17.1,

**Table 1** Characteristic of 294 women with cervical polyp

Feature	<i>n</i> (%)
Mean age (years)	49.3 (SD 11.9)
Age group (years)	
<25	0 (0)
25–45	117 (39.8)
45–55	95 (32.3)
>55	82 (27.9)
Parity	
0	83 (28.2)
$\geq 1$	211 (71.8)
Previous history of breast cancer	13 (4.4)
Previous polypectomy	37 (12.6)
Previous hysteroscopy	16 (5.2)
Presenting symptoms	
Asymptomatic	194 (65.9)
Symptomatic	100 (34.1)
IMB/PCB	55 (55.0)
PMB	32 (32.0)
Menorrhagia	13 (13.0)
Procedure	
GA polypectomy	89 (30.1)
Outpatient polypectomy	205 (69.9)
Histology	
Benign	294 (100)
Maximum dimension of polyp (mm)	
Mean	11.6 (SD 7.3)
$\leq 10$	185 (62.9)
11–20	84 (28.5)
>20	25 (8.6)

Values are presented as *n* (%), mean (SD)

IMB intermenstrual bleeding, PMB postcoital bleeding, GA general anaesthetic

$P < 0.001$ ) and have their polyps removed under general anaesthesia (OR = 4.8, 95% CI 2.4–9.9,  $P < 0.001$ ).

Compared to the premenopausal group, postmenopausal women were more likely to have symptomatic cervical polyps (OR = 2.2, 95% CI 1.6–4.7,  $P < 0.001$ ) and polypectomy under general anaesthesia (OR = 1.7, 95% CI 1.0–3.1,  $P = 0.01$ ), Table 3.

## Discussion

None of the cervical polyps removed in our study showed features of atypia, dysplasia or malignancy. This contradicts the findings of Berzolla et al. [7] who found a prevalence rate of 0.1% for malignancy and Schnatz et al. [8] who found a prevalence rate of 1.4–2.7% for any abnormality

**Table 2** Comparison of clinical features in women with and without recurrent cervical polyp

	Recurrent (n = 37)	Not recurrent (n = 257)	OR (95% CI)	P
Age (years)				
<45	10 (27.0)	107 (41.6)	0.5 (0.2–1.1)	0.03
45–55	18 (48.7)	77 (30.0)	2.2 (1.1–4.4)	0.01
>55	9 (24.3)	73 (28.4)		NS
Parity $\geq 1$	36 (97.3)	199 (77.4)	10.1 (1.4–78.1)	<0.001
Symptomatic	28 (75.79)	72 (28.0)	7.9 (3.5–17.7)	<0.001
GA	23 (62.1)	65 (25.3)	4.8 (2.4–9.9)	<0.001
Previous hysteroscopy	6 (13.5)	10 (4.0)	3.8 (1.1–12.2)	0.02
Incidental polyp	6 (16.1)	34 (13.2)	1.4 (0.3–3.3)	NS

Values are presented as n (%)  
GA general anaesthesia

**Table 3** Comparison of Pre- and postmenopausal age groups

	Postmenopausal (n = 82)	Pre-menopausal (n = 212)	OR (95%CI)	P
Symptomatic	42 (51.2)	58 (27.3)	2.2 (1.6–4.7)	<0.001
Recurrent polyp	9 (10.9)	28 (13.2)		NS
Previous hysteroscopy	3 (3.6)	11 (5.1)		NS
Treatment				
GA	32 (39.0)	56 (26.4)	1.7 (1.0–3.1)	0.01
OP	50 (61.0)	154 (73.6)	0.5 (0.3–0.9)	0.01
Parity				
0	17 (20.7)	42 (19.8)		NS
>1	65 (79.3)	170 (81.2)		NS

Values are presented as n (%)  
GA general anaesthesia,  
OP outpatient

defined as atypia, dysplasia or malignancy. The reason for this discrepancy may be because our sample size was not only smaller but also involved a different population.

Surprisingly, in this study, no polyp was removed in women younger than 25 years of age. The explanation for this is not clear. However, it has been suggested that polyp formation may be related to a chronic inflammatory process [6]. Perhaps in this population, the resultant polyp formation becomes apparent only after the age of 25 years. A significant proportion of women in this study were parous. It is thought that parity has a positive association with the development of cervical polyps as recurrent childbirth increases the exposure of the cervical stroma to high oestrogen levels.

As noted by other researchers [9], we found that majority of cervical polyps were incidental findings. As yet, the natural history of a cervical polyp is unknown. The factors that cause a polyp to become symptomatic have not been elucidated. It may be that over the course of time, the polyp either becomes infected or outgrows its blood supply as occurs in hypo-oestrogenic state, or undergoes dysplastic transformation. Contrary to the findings of Neri et al. [10], we found that postmenopausal women were more likely to have symptoms associated with cervical polyps. This may

be related to the hypo-oestrogenic state of the genital tract in the postmenopausal woman.

The recurrence rate of cervical polyp in this study was 12.6%, which is, twice that of Berzolla et al. [7]. The reason for recurrence cannot be readily explained. However, recurrence may result from incomplete excision or persistent exposure of the cervical stroma and epithelium to the initial stimulus for the growth of the polyp. The interval between recurrences ranged 2–5 years. There was a significant association between recurrence and parity, presence of symptoms and the removal of the polyp under general anaesthesia.

In this study, the mean maximum dimension of the polyps was 11.6 mm and the majority were 10 mm or less. Although it may be thought that the polyp size is related to the risk of neoplasia, this is not supported by available evidence. Indeed, the most recent review of the entity known as giant cervical polyp was in 2008 by Bucella et al. [11]. Giant cervical polyps are polyps with sizes greater than 4 cm. A Medline search (January 2010, English language publications only) revealed 11 case reports and all were benign.

**Conflict of interest statement** None.

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