

RESEARCH COMMUNICATION

Pap Smear, Colposcopy and Biopsy Findings at Follow-up of Pap Smear Positive Women in North-east Thailand

Pissamai Yuenyao¹, Supanee Sriamporn^{2*}, Onanong Kritpetcharat³, Pilaiwan Kaebkaew¹, Krittika Suwanrungruang⁴, Naowarat Tungsrihong⁵, Prasit Pengsaa²

Abstract

As part of an ongoing project involving a large cohort in the Khon Kaen Province in the North-east of Thailand, a total of 236 women who had tested positive for a Pap smear at the initial recruitment and advised to seek medical attention were followed up after a mean period of 3.1 years. The 204 individuals who could be contacted were interviewed to determine treatments received and underwent a further Pap smear as well as colposcopy in 179 of the cases. On clinical advice, biopsies were also taken from 32 of these. Only 15% of the total of 204 had actually received therapy, the majority undergoing surgery (self-reported). Possible positive Pap smear results were obtained for 23.5%, with 6.4% having high grade squamous intraepithelial lesions (HGSILs) or squamous cell carcinoma (SCC) (one case). Comparison of the different testing modalities demonstrated 5.6% false negatives and 16.2% false positives for the Pap smear with colposcopy as the gold standard. Compared with biopsy findings, there were 21.8% and 40.6% false positives with Pap and colposcopy, respectively, but no false negatives. The present results point to good efficacy for the initial screening, since only 0.5% of the total population developed an SCC. However, judgement as to therapy should depend on a biopsy since there were considerable false positives with the other two modalities employed.

Key words: Cervical cancer screening - Pap smear positive cases - outcome - diagnosis confirmation - Thailand

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Introduction

Cervical cancer kills more than 288,000 women each year worldwide and disproportionately affects the poorest, most vulnerable women. At least 80 percent of cervical cancer deaths occur in developing countries, with most occurring in the poorest regions - South Asia, sub-Saharan Africa, and parts of Latin America (Parkin et al., 2001). It was the most common cancer of Thai women in 1995-1997, with an estimated age-standardized incidence rate of 19.5 per 100 000 (Sriplung et al., 2003).

In order to determine risk factor and other variables for cancer development a large cohort has been established in Khon Kaen, Thailand (Sriamporn et al. 2005). At the initial recruitment the females underwent a Pap smear and the 236 subjects with positive results were asked to seek further medical testing and treatment where necessary. Since it is very important to determine efficacy of such screening exercises this group of women were followed-up in the present study. In addition to ascertaining actual therapy received, a follow-up Pap smear was taken and the results compared with colposcopy and biopsy findings.

Materials and Methods

After making appointments with the subjects, a mobile clinic was sent to all districts where they were residing and interviews were conducted for the 204 of those who were available (86% of the total) to obtain information on treatment received after the initial positive Pap smear results.

A repeat Pap smear was performed for all cases and this was accompanied by colposcopy in 179 cases (88%). In addition, on the basis of a doctor's decision, 32 of these underwent a biopsy. All of these were performed free of any charge and those with positive findings were advised to seek medical attention. The mean period of follow-up was 3.1 years. If the finding was negative for intraepithelial lesion or malignancy it was indicated as negative finding (-). The positive findings (+) included epithelial cell abnormalities, both squamous cell and glandular.

Results

Of the 204 subjects, 156 and 48 had negative and

¹Department of Obstetrics & Gynaecology, ³Department of Pathology, ⁴Cancer Unit, Faculty of Medicine, Khon Kaen University, ²College of Medicine and Public Health, Ubon Rajathane University, ⁵UICC- Asian Regional Office for Cancer Control, Khon Kaen, Thailand *For correspondence: supanee0911@yahoo.com

positive results of the follow-up Pap smear (76.5 and 23.5%, respectively). Findings for treatments received are summarized in Table 1. Only 31 of the women actually underwent clinical therapy (15% of the total).

Pap smear findings for the 48 positive cases are summarized in Table 2. Some 25% had HSIL and one case was found to have an SCC. Correlations between Pap smear, colposcopy and biopsy findings are shown in Tables 3-5. There were considerable numbers of false positives with both Pap smears and colposcopy not confirmed at biopsy.

Discussion

The present study indicated that the quality of Pap smears was relatively good, given that only 5.6% of false

Table 1. Therapy for Pap Positive Cases

2nd Pap Smear	Positive (48)	Negative (156)
Conanization	1	1
Radiation	3	4
Surgery	2	20

Table 2. Follow-up Pap Smear Results

Pap smear result	Number of subjects (%)	%
Negative result	156	76.5
Possible positive	48	23.5
ASC-US	16 (33.3)	7.8
ASC-H*	6 (12.5)	2.9
LGSIL	4 (8.3)	2.0
HGSIL	12 (25.0)	5.9
SCC	1 (2.1)	0.5
Unclear result**	9 (18.8)	4.4

*cannot exclude HGSIL ** (not determined, menstruation etc)

Table 3. Comparison between Colposcopy and Pap Smear Results at Follow-up

Pap smear	Colposcopy		Total
	+	-	
+	15 (8.4)	29 (16.2)	44 (24.6)
-	10 (5.6)	125 (69.8)	135 (75.4)
Total	25 (14.0)	154 (86.0)	179 (100)

Table 4. Comparison between Biopsy and Pap Smear Results at Follow-up

Pap smear	Biopsy		Total
	+	-	
+	8 (25.0)	7 (21.8)	15 (46.9)
-	0 (0.0)	17 (53.1)	17 (53.1)
Total	8 (25.0)	24 (74.9)	32 (100)

Table 5. Comparison between Biopsy and Colposcopy Results at Follow-up

Colposcopy	Biopsy		Total
	+	-	
+	8 (25.0)	13 (40.6)	21 (65.6)
-	0 (0.0)	11 (34.4)	11 (34.4)
Total	8 (25.0)	24 (40.6)	32 (100)

negative cases were found with colposcopy as the gold standard. Similarly, all of the biopsy positive specimens were also Pap smear positive. However, there were considerable numbers of Pap smear false positives, in line with earlier findings. Furthermore, coverage of the population remains low. One study in Khon Kaen Province, found that 33% of women had never been screened for cervical cancer (Kritpetcharat et al. 2003). Similar findings were reported by Deerasamee et al. (2002) from the National Cancer Institute, from a pilot project in Nakhon Phanom Province, also northeast Thailand.

The positive rate with follow-up Pap smears in the women in our series was approximately 25% and therefore much higher than the 2.5% found at the initial screening. Thus the group can be considered as high risk, although only one SCC was diagnosed. This may indicate that a number of the cases did not receive sufficient follow-up treatment and this needs to be a focus in future work. Unfortunately, it was not possible to determine the follow-up history for many of the cases here. The most important point that we wish to stress is that even colposcopy is associated with significant numbers of false positives, so that we must rely on biopsy specimens.

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