

Prevalence of Abnormal Pap Smear in Maharat Nakhon Ratchasima Hospital

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Abstract

Introduction: Cervical cancer is the 2nd most common malignancy after breast cancer among Thai women. The International Agency for Research on Cancer (IARC) of World Health Organization (WHO) reported that the incidence of new cases of cervical cancer in 2010 was 530,000 cases/year. In the case of cervical cancer in Thai women, the age-standardized incidence rate was 24.5 cases/100,000 women. A Pap smear can detect the abnormalities before they turn into cancer. **Objective:** To study the prevalence of abnormal Pap smear in Maharat Nakhon Ratchasima Hospital. **Patients & Methods:** A retrospective study of the cytology was performed at the cytology section, Department of Anatomical Pathology. We received the samples of the cervical cancer screening from three departments, the outpatient Obstetrics - Gynecology, the tumor clinics and the family planning clinics between January 1, 2010 and December 20, 2012 using the Bethesda System 2001. **Results:** There were 20,293 cases consisting of 6,678, 6,628 and 6,987 cases (in the year 2010 , 2011 and 2012, respectively). The results were negative for intraepithelial lesion (NILM) of 97.4%. From this study, 522 cases (2.6%) were found abnormal, consisting of ASC-US/ASC-H/AGC 1.4%, LSIL 0.6%, HSIL/AIS 0.5% and the invasive malignancy 0.1%. The average age of women with ASC-US/ASC-H/AGC, LSIL, HSIL/AIS and malignancy were 45.9, 38.0, 48.7 and 51.2 years, respectively. **Conclusions:** The results of abnormal Pap smear were found in 2.6%.The age intervals of highest prevalence of LSIL, HSIL/AIS and malignancy were 27-49, 36-62, 38-64 years old, respectively.

บทคัดย่อ : ความชุกของผลการตรวจคัดกรองมะเร็งปากมดลูกที่ผิดปกติในโรงพยาบาลมหาราชนครราชสีมา จิราภรณ์ สมุทรเปารยะ , วท.บ. (วิทยาศาสตร์การแพทย์)*
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มะเร็งปากมดลูก เป็นมะเร็งที่พบมากเป็นอันดับสอง รองจากมะเร็งเต้านมในสตรีไทย จากรายงานขององค์การอนามัยโลก พบอุบัติการณ์ของผู้ป่วยรายใหม่ของมะเร็งปากมดลูก ในปี พ.ศ. 2553 เป็น 530,000 ราย/ปี ส่วนสตรีไทยนั้นมีอัตราการเกิดมะเร็งปากมดลูก 24.5 ราย/100,000 ราย และการตรวจ Pap smear นั้นสามารถตรวจพบความผิดปกติของปากมดลูกได้ก่อนที่จะกลายเป็นมะเร็ง **วัตถุประสงค์:** เพื่อศึกษาความชุกผลการตรวจมะเร็งปากมดลูกที่ผิดปกติด้วยวิธี Pap smear ในโรงพยาบาลมหาสารคามราชสีมา **ผู้ป่วยและวิธีการ:** ศึกษาย้อนหลังของงานเซลล์วิทยา กลุ่มงานพยาธิวิทยากายวิภาค ซึ่งรับการตรวจคัดกรองมะเร็งปากมดลูกจาก 3 หน่วยงาน ประกอบด้วย ผู้ป่วยนอกสูติ-นรีเวช, คลินิกมะเร็งและคลินิกวางแผนครอบครัว ระหว่างวันที่ 1 มกราคม 2553-20 ธันวาคม 2555 โดยรายงานผลใช้ระบบปีเทสด้า 2001 **ผลการศึกษา:** ตัวอย่างที่นำส่งตรวจทั้งหมด 20,293 ราย (ในปี พ.ศ. 2553-2555 จำนวน 6,678, 6628 และ 6,987 ราย ตามลำดับ) พบผลปกติ ร้อยละ 97.4 และผลผิดปกติ 522 ราย (ร้อยละ 2.6) [ได้แก่ ASC-US/ ASC-H / AGC ร้อยละ 1.4 , LSIL ร้อยละ 0.6, HSIL /AIS ร้อยละ 0.5 และมะเร็งระยะลุกลาม ร้อยละ 0.1] อายุเฉลี่ย ASC-US/ASC-H/AGC 45.9 ปี, LSIL 38 ปี, HSIL/AIS 48.7 ปีและมะเร็ง 51.2 ปี **สรุป:** การตรวจคัดกรองมะเร็งปากมดลูกในโรงพยาบาลมหาสารคามราชสีมา พบผลผิดปกติได้ร้อยละ 2.6 ช่วงอายุที่พบมากของ LSIL, HSIL/AIS และมะเร็งอยู่ระหว่าง 27-49, 36-62, 38-64 ปี ตามลำดับ

Introduction

The International Agency for Research on Cancer (IARC) of World Health Organization (WHO) reported that the incidence of new cases of cervical cancer in 2010 was 530,000 cases/year⁽¹⁾. In the case of cervical cancer among Thai women, the age-standardized incidence rate was 24.5 cases/100,000 women. Women between the ages of 35 and 55 years are more commonly diagnosed with cervical cancer than women of any others age. In Thailand, cervical cancer is the second most common after breast cancer and its incidence is highest in the northern region⁽²⁾. The Papanicolaou smear (Pap smear) has been proved to be an effective method for screening abnormal cervical cells. This paper is aimed to study the prevalence of abnormal Pap smear in Maharat Nakhon Ratchasima Hospital.

Patients & Methods

This retrospective study from Cytological Unit, Department of Anatomical Pathology, Maharat Nakhon Ratchasima Hospital recruited the patients who received the cervical cancer screening between January 1, 2010-December 20, 2012. All specimens were collected from 3 sources (the outpatient clinic, the tumor clinic and the family planning

clinic) of Department of Obstetrics-Gynecology, Maharat Nakhon Ratchasima Hospital. The Bethesda System 2001 was used to report. The test was done by cytoscreener and cytotechnician. If abnormal Pap smears were detected, pathologist would be consulted to confirm its results prior to report. The women who had abnormal Pap results would be further examined by gynaecologist (e.g. colposcopy, tissue biopsy and conization).

Terminology

The report of Pap smear in the Bethesda System 2001 was used in this study.

NILM: negative for intraepithelial lesion

ASC-US: Atypical squamous cells of undetermined significance

ASC-H: Atypical squamous cells cannot exclude high-grade squamous intraepithelial lesion

AGC: Atypical glandular cells

LSIL: Low grade squamous intraepithelial lesion

HSIL: High grade squamous intraepithelial lesion

AIS: Adenocarcinoma in situ

SCCA: Squamous cell carcinoma

ADC: Adenocarcinoma

Results

Of 20,293 women, the Pap tests were examined (6,678, 6,628 and 6,987 cases in the year 2010, 2011 and 2012 respectively). Most of them were normal (NILM) (97.4%) and 522 cases (2.6%) were abnormal, consisting of ASC-US/ASC-H /AGC 1.4%, LSIL 0.6%, HSIL/AIS 0.5% and the invasive malignancy 0.1% as in table 1. The average ages of patients with ASC-US/ASC-H /AGC, LSIL, HSIL/AIS and malignancy were 45.9, 38.0, 48.7 and 51.2 years, respectively.

The range and average age which had most frequently abnormal Pap smears were as following

33-59 (45.9) years old : ASC-US / ASC-H / AGC

27-49 (38.0) years old : LSIL

36-62 (48.7) years old : HSIL / AIS

38-64 (51.2) years old : malignancy

Discussion

Cervical cancer is the second most common cancer in Thai women⁽²⁾. The pap smear test is effective to reducing the incidence of invasive cervical cancer and it's mortality. In Thailand, Pap smear screening is routine recommendation for all women between the ages of 21 and 65 years old and should not be done during menstruating

period. The doctors collect a few cells and mucus from the cervix and the area around it. The cells are then placed on a slide or in a bottle of liquid and sent to a laboratory. The cytoscreener and cytotechnician will check to be sure that the cells are normal or not.

This study reviewed the results of Pap smear from three parts within Maharat Nakhon Ratchasima Hospital, the rate of the abnormal findings of Pap smear was 2.1% in year 2010 and increases to 2.9% in 2011 and 2.7% in 2012. Of abnormal Pap smear 2.6%, the group of precancerous lesions ASC-US/ASC-H/AGC is found to be 1.4%, which is the standard for diagnosis of atypical squamous cell (ASC) TBS system viz., ASC diagnosis should not exceed 5% of all pap smears⁽³⁾ while LSIL, HSIL/AIS and the invasive malignancy are found to be 0.6%, 0.5% and 0.1%, respectively which is close to the results of abnormal Pap smears studied by Mitprasat at Surin Hospital⁽⁴⁾ and Intamul at Chiang Kham Hospital⁽⁵⁾. The range of age and average age in which LSIL, HSIL/AIS and malignancy are most commonly found are 27-49 (38.0), 36-62 (48.7), and 38-64 (51.2) years, respectively, so the campaign will be emphasized over age 27-36 years and over and cover the age group below 27 years due to the abnormal Pap smear. The campaign of cervical cancer

Table 1 Pap smear report.

Year	2010	2011	2012	Total
Result	Number (%) n=6,678	Number (%) n=6,628	Number (%) n=6,987	Number (%) N=20,293
Normal	6,542 (98)	6,434 (97.1)	6,795 (97.3)	19,771 (97.4)
Abnormal				
- ASC-US, ASC-H, AGC	72 (1.1)	106 (1.6)	105 (1.5)	283 (1.4)
- LSIL	32 (0.5)	47 (0.7)	41 (0.6)	120 (0.6)
- HSIL, AIS	26 (0.4)	36 (0.5)	39 (0.5)	101 (0.5)
- Invasive malignancy (ADC, SCCA)	6 (0.1)	5 (0.1)	7 (0.1)	18 (0.1)

Table 2 Abnormal Pap smear by age group

Age group (yr)	Total of pap smear	Number (%)			
		ASC-US/ASC-H/AGC	LSIL	HSIL/AIS	Invasivemalignancy
15-19	194	5 (2.6)	2 (1.0)	1 (0.5)	0
20-24	596	8 (1.3)	15 (2.5)	1 (0.2)	0
25-29	938	11 (1.2)	9 (1.0)	2 (0.2)	0
30-34	1,627	26 (1.6)	14 (0.9)	5 (0.3)	1 (0.1)
35-39	2,310	41 (1.8)	26 (1.1)	18 (0.8)	4 (0.2)
40-44	3,198	48 (1.5)	22 (0.7)	18 (0.6)	3 (0.1)
45-49	3,715	42 (1.1)	21 (0.6)	14 (0.4)	0
50-54	2,923	35 (1.2)	8 (0.3)	9 (0.3)	1 (0.0)
55-59	1,882	24 (1.3)	0	10 (0.5)	3 (0.2)
60-64	1,304	20 (1.5)	1 (0.1)	12 (0.9)	3 (0.2)
65-69	671	9 (1.3)	0	5 (0.8)	2 (0.3)
70-74	474	8 (1.7)	1 (0.2)	1 (0.2)	1 (0.2)
75-79	284	4 (1.4)	1 (0.4)	4 (1.4)	0
80-84	121	2 (1.7)	0	0	0
85-89	21	0	0	1 (4.8)	0
>90	10	0	0	0	0
Not specify	25	0	0	0	0
Total	20,293	283 (1.4)	120 (0.6)	101 (0.5)	18 (0.1)

screening is still necessary and must be emphasized to attract public awareness for early detection of cervical cancer and decrease the mortality from cervical cancer in the future. This study does not include patient information when their abnormalities associated with cervical cancer are detected.

Conclusion

The results of abnormal Pap smear are found in 2.6%. The LSIL, HSIL/AIS and malignancy are most commonly found in age group between 27-49, 36-62, 38-64 years old, respectively.

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