

Necessity of Cervical Cancer Screening in Middle and Low Income Countries

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Abstract

Background: In low and middle income countries, cervical cancer is considered one of the common cause of cancer related- death in women. Even though cervical cancer has been controlled by cytology-based screening in developed countries, unfortunately the majority of women who develop cervical cancer live in societies with no or poor access to regular screening. **Method:** All cases of cervical neoplastic lesions including Low grade squamous intraepithelial lesion(LSIL), High grade squamous intraepithelial lesion(HSIL), Insitu squamous cell carcinoma, insitu adenocarcinoma, Invasive squamous cell carcinoma(SSC) and invasive adenocarcinoma were retrieved from file of pathology department of university affiliated Alzahra hospital(Tabriz-Iran) from April 2016 to April 2018 to achieve of relative incidence of preinvasive and invasive cervical neoplastic lesions. Repeated surgical specimens from one patient were excluded. **Result:** A total number of 43 cases of cervical preinvasive and invasive neoplasia lesions were found in the study period. **Conclusion:** Based on the results of this study, it can be concluded that, nowadays cervical cancer is considered truly a curable cancer if diagnosed in preinvasive or very early stages of invasive. We strongly recommend that national appropriate screening program in association with social education about HPV infection should be start in Iran.

Keywords: cervical cancer, screening, middle income country

INTRODUCTION

In low and middle income countries, cervical cancer is considered one of the common cause of cancer related- death in women ^[1]. It is estimated that 527,600 new cases of cervical cancer and 265,700 related deaths occurred in 2012 worldwide ^[2]. It is the third most commonly diagnosed cancer in women worldwide and near 85% of new cases and death occur in developing countries ^[3]. Because the cervix is simply expose and prone to sampling and because the relatively long preinvasive phase of cervical malignant lesions, the disease is well appropriated for screening. Although the disease incidence and mortality rate have been declined dramatically in developed countries by implementation of cytologic screening into health system, unfortunately 86% of new cases and 88% of all deaths caused by cervical cancer occur in developing countries each year due to lack of suitable infrastructures for implementation of screening ^[3]. As a scientific fact, nowadays cervical cancer is considered as a potentially curable and preventable disease and great successful results from application of the screening programs in Scandinavian countries and Canada confirmed the claim ^[4].

Even though cervical cancer has been controlled by cytology-based screening in developed countries, unfortunately the majority of women who develop cervical cancer live in

societies with no or poor access to regular screening. Several socioeconomic obstacles and barriers including lack of infrastructures, economic factors and cultural questions contribute in this subject ^[5].

MATERIALS AND METHODS

All cases of cervical neoplastic lesions including Low grade squamous intraepithelial lesion (LSIL), High grade squamous intraepithelial lesion (HSIL), Insitu squamous cell carcinoma, insitu adenocarcinoma, Invasive squamous cell carcinoma (SSC) and invasive adenocarcinoma were retrieved from file of pathology department of university affiliated Alzahra

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hospital (Tabriz-Iran) from April 2016 to April 2018 to achieve of relative incidence of preinvasive and invasive cervical neoplastic lesions. Repeated surgical specimens from one patient were excluded.

A total number of 43 cases of cervical preinvasive and invasive neoplasia lesions were found in the study period. Mean age of the patients in preinvasive and invasive cases were 42.08 and 59.8 respectively. Number of cases, age at presentation, screening status and histologic diagnosis of the patients presented in table 1.

RESULTS

Table 1. Histologic and Clinical characteristics of the study cases

Final Histologic Diagnosis	Mean Age at Presentation	Clinical Presentation	Number of Cases Total Number=43
Low Grade Squamous Intraepithelial Lesion(LSIL)	(31-49) 41	No specific Clinical finding	6
High Grade Squamous Intraepithelial Lesion(HSIL)	(31-53) 42.66	-Cervicitis (2 cases) -AUB (1case) -Uterine fibroid (1case) -CIN in Pap smear report (1 case)	9
Insitu Carcinoma	(28-72) 42.6	-Pregnancy work up (1 case) -Spotting (1 case) -Ovarian cyst(1 case) -AUB (1case) abdominal pain (1case)	5
Invasive Squamous Cell Carcinoma	(37-83) 62.61	-Post menopausal bleeding (1case) -Vaginal lesion (1 case) -Vaginal bleeding (15 cases) - abdominal pain	21
Invasive Adenocarcinoma	(54-60) 57	- Post menopausal bleeding (3case) - Cervical mass (1 case) -Abnormal vaginal bleeding (1case) -Abdominal pain (1 case)	2

DISCUSSION

Cervical cancer is the second most common cancer in women worldwide [6-8]. Cytological screening reduced dramatically the incidence of invasive cervical squamous cell carcinoma in developed countries [9]. In low resources countries, lack of well-developed infrastructures and cultural barriers restricted use of Pap smear as a screening tool [10, 11]. In the other hand increasing spread rate of HPV infection particularly in less developed societies between young people have led that invasive cervical cancer has become one of the most lethal cancer caused by sexually transmitted infection in the world [12, 13]. Our results in this study revealed that in northwest of Iran the rate of invasive cervical cancer is much more than pre-invasive disease due to lack of effective screening program. In most cases of cervical cancer there is relatively long period between high grade cervical intraepithelial lesions and beginning of invasion allows detection of dysplastic changes by various screening methods. Effective, systematic and programmed cytologic screening can reduce cervical squamous cell carcinoma by 93% (R).

Based on resource availability, income status and culture of societies, various screening methods should be considered to

use for prevention and early detection such as Direct Visual Inspection (DVI) [14], cervicography [15], cervical cytology [16], HPV genotyping and detection of HPV E6 and E7 proteins [17]. Unfortunately, many of low and middle income countries could not able to implement cytologic screening in their health systems. In addition to test availability and feasibility, acceptable sensitivity and specificity and quality control of the screening methods are required factors in success of such program. Some studies indicate that visual inspection with acetic acid (VIA) have had the same sensitivity of Pap smear in low income countries [18]. Molecular based tests (e.g HPV genotyping, Micro RNA analysis) have their own limitations such as low specificity, high cost and increased colposcopy clinics load.

From new technology and recent studies perspective, web-based cervicography before and after application of 3%-5% acetic acid [19, 20], and consultation of suspicious cases with experts via web-based [21] tools may be considered a sensitive and cost effective procedure for most of the low income countries.

In conclusion, nowadays cervical cancer is considered truly a curable cancer if diagnosed in preinvasive or very early stages

of invasive. This can be achieved by appropriate choice of national screening methods based on cultural and socioeconomic facts. In addition, social based education, feasibility, choice of target groups and interval of screening rounds are essential factors in successful management of the programs. We strongly recommend that national appropriate screening program in association with social education about HPV infection should be start in Iran.

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