

## CHAPTER I

### INTRODUCTION

Cervical cancer is the most important cancer among Thai women (National Cancer Institute, 1977). It is the most frequently found in Thai women. It can cause very high morbidity and mortality, reduce life expectancy and the quality of life of the patients.

Cervical cancer can be cured if the physicians can detect it in the early stage of disease (Coppleson, 1981). The treatments are radical surgery, for example Wirthiem's operation and radiation therapy (Mattingly, 1981).

Because cervical cancer is highly invasive, the treatments must be radical rather than conservative, thus complications of the treatments occur. Some complications are serious, for example Wirthiem's operation has high mortality rate and morbidity rate (Mattingly, 1981). Some complications are not life threatening but cause the patients loss of quality of life, for example infertility after conization, etc.

The majority of patients are in low socioeconomic status so few of them can pay for the cost of treatment (Miller and Rauwls, 1981). That means that government has to pick up the cost of the treatment. The treatment costs include the cost of running many of health facilities, for instance,

operating room running cost, hospital beds, personnel, etc.. For these reasons, cancer of the cervix is a burden to the patients and the country. It can be considered an important health problem in Thailand.

In the current treatment of cancer of cervix, it is accepted that early detection of the disease is crucial. If the physicians can detect the disease in an early stage (or in the precancerous stage), the treatments are less invasive and easy to perform. The treatment results are also better and have lower complications than the later stage (Boyes, 1978). The cost of the treatment in the early stage is also cheaper than the cost of treatment in the later stage.

Because of many benefits gained from early detection of the cancer of cervix, many diagnostic procedures were developed to detect the early stage of disease.

Papanicolaou (1920) has developed a laboratory technique to detect the exfoliative cell from cervix by a cytology method. This technique has been called the "papanicolaou's technique" or "pap smear". Pap smear can detect high risk patients who have more tendency to have the disease. By using this method as a screening test physicians can detect the early stage of the disease and give the proper treatments to the patients. Thus, the morbidity rate and mortality rate of the disease can be reduced (Boyes, 1981; Pengsaa et Al., 1989).

From the beginning of this century, gynecologic emphasis has swung from the early detection of invasive cervical cancer through the detection of early cervical cancer. The present interest is focused on premalignant conditions of

the uterine cervix (Cervical Intraepithelial Neoplasia). One of the essential responsibilities of the gynecologists is to detect neoplasia of the female genital tract at the earliest possible opportunity. The impact of the Papanicolaou's smear (Pap smear) in the practice of gynecology is well known and has significantly changed the detection of early cervical cancer.

The aim in evaluating the patients with abnormal Pap smear is to rule out coexisting invasive cancer. Diagnostic methods for evaluating abnormal cytologic (Pap) smears in the past were either random cervical biopsy or cold-knife conization. Random cervical biopsy has been shown to be frequently inaccurate. Conization (cone biopsy), although accurate, is expensive and has major immediate complications and late sequelae.

A tissue diagnosis is essential before proceeding with definitive therapy in the presence of an abnormal Papanicolaou' stained smear. Random cervical biopsy without a visible lesion may result in a high rate of false negative histologic diagnosis. On the other hand, to proceed directly to conization of the cervix on the basis of a single abnormal cytologic study (Pap smear) would result in many unnecessary operative procedures. The postoperative morbidity of conization and its effect on future fertility and fetal wastage in pregnancy cases cannot be ignored (Daskal, 1968 ).

Since the initiation of the Provincial Cytology Service in 1949, cone biopsy has been recommended for the investigation of patients with suspicious or positive cytology (Pap smear)(Boyes et Al., 1978). However, Claman and Lee (1974)

demonstrated that from 1008 cone biopsy cases performed in their hospital, the total complication rate for this group of patients exceeded 20 per cent. They stated that conization is not an entirely satisfactory method for confirming abnormal cytologic findings. Although the cone biopsy is apparently ideal for obtaining the most accurate diagnosis of the lesion in any cases. The cone biopsy has not been accepted as a common and routine procedure of choice because of its inherent risks, expense for hospitalization and risks associated with anesthesia, etc. It has been well established that a cone biopsy is not to be regarded as a benign procedure, because it is often associated with a significant degree of surgical morbidity and jeopardy to future childbearing (Chao el Al., 1969).

In 1971 Coppleson and associates published a classic monograph entitled " Colposcopy". And a year later Kolstad and Staff published a superb Atlas of Colposcopy. This appeared for the first time in the more recent English literature. Two authoritative experts on colposcopy and its applications have shown the basic principle understanding and how to diagnose cervical cancer from which the interested gynecologists could learn.

Colposcopy has been described nearly half of a century before the organization of First World Congress for cervical Pathology and Colposcopy at Argentina in 1972. From that time, colposcopic examination has rapidly altered the evaluation of abnormal cervical cytology especially in younger women. The reported trends are interested in the increasing incidence of Cervical Intraepithelial Neoplasia (CIN) (preinvasive stage of

cervical cancer) and early invasive cervical cancer in younger women. Because the majority of these women have not yet started families, the preservation of their cervix is of importance. Although diagnostic conization ( cone biopsy ) is accurate. It is not always a benign procedure and has effects on fertility and pregnancy. Colposcopy has brought a new chance for the patients to a the conservative diagnosis and treatment of "CIN".

The colposcopy and the exfoliative cytology (Pap smear) have been introduced in United States and in Europe over 20 years ago. Reports comparing the effectiveness of the combined use of these two methods in screening for cervical cancer began to appear in the literature (Townsend,1970; Staf1 and Mattingly, 1973; Benedet and Boyes, 1976). These comparative studies substantiated that it was possible to pinpoint the area of abnormal cervical epithelium accurately by colposcopic examination for the selection of the biopsy site. There is a general agreement that the combination of both methods increases the diagnostic accuracy over that of each method separately. Some papers (eg. Townsend, 1970) indicated that the combination of cytology (Pap smear), colposcopic directed biopsy (biopsy under colposcopic guide) and endocervical curettage can produce a diagnosis as accurate as is made by cone biopsy. Accordingly, the cone biopsy (conization) is not always necessary.

At present, cytology plus colposcopic directed biopsy seem to be the ordinary methods of choice for diagnosis of the cervical lesion (Ortiz and Odell, 1970; Crapanzano, 1972; Townsend et Al., 1970; Donohue and Meriweather, 1972; Staf1

and Mattingley, 1973). They have enthusiastically endorsed colposcopy as a method of evaluating patients with abnormal cervical cytology, claiming that diagnostic cone biopsy can be reduced by 80 to 90 per cent. It follows that the number of diagnostic conization can be reduced significantly with the availability of colposcopy. The postoperative complications following cervical conization such as bleeding, cervical stenosis, infertility, etc. can be minimized (Townsend, 1970). Numerous studies have been published over the past decade delineating the accuracy of colposcopy in the diagnosis of the cause of an abnormal Papanicolaou smear (Stafl and Mattingly, 1973; Benedet, Boyes and Nicholas, 1976).

Although many studies showed that colposcopy had a high accuracy in the detection of cervical cancer, there have been reports of some abnormal pap smear women who developed invasive cervical cancer diagnosed many years after colposcopic evaluation for an abnormal Pap smear. Some cases developed after conservative therapy for either benign or premalignant cervical disease (Townsend, 1981). Benedet reported in 1976 that two thirds of colposcopic error might come from the physicians who performed the procedure. It is accepted that the accuracy of diagnostic performance (specificity, sensitivity, etc.) of colposcopy in different centers differ from each other. It depends on the performance of colposcopists who perform the test (Koldstad and Stafl, 1982).

The experience of the expertise plays an important role in these differences (Coppleson and Pixley, 1981). It is recommended that before using colposcope in any other centre,

the colposcopists should be measured for their reliability to prevent wrong diagnosis.

There are many ways to standardize the colposcopy. Clear protocol and clear criteria in diagnosis must be presented. Training program by expertise is needed. Well quality controlled by various form of examination and the reliability of the diagnostic result at that setting should be measured. This is to make sure that the colposcopic diagnostic performance are in the accepted standard (Townsend, 1981).

Bhumipol hospital has campaigned for screening of cervical cancer for many years so the physicians can detect high risk patients who have abnormal pap smears, approximately ninety patients per year (Bhumipol hospital, Pathology Department, 1989). The diagnostic procedures appropriate for the patients are being considered. Colposcopy is one of the candidates.

This thesis determined to evaluate the diagnostic performance of colposcopists in Bhumipol Hospital for the diagnosis of cancer of cervix in women who have abnormal pap smear. The result can be beneficial to the gynecology clinic of Bhumipol hospital in provision of the appropriate management to the patients.