

CHAPTER V

THE MANOEUVRE

The Study Setting

A. Patients Recruitment

All women who attended at the Gynecology Unit and had abnormal Pap smear performed during the present visit were recruited. All women who were selected through the inclusion and exclusion criteria had to be hospitalized to work up for the medical diseases or other diseases that may be contraindicated for diagnostic conization .

Eligible patients must know the details of the study and sign informed consents to participate in this study.

Eligible patients must be free from medical diseases or must be corrected for some illnesses before undergoing diagnostic tests required in the study.

B. The Diagnostic Procedure

Two diagnostic tests, colposcopy and diagnostic conization are performed by a gynecologist who is the colposcopic expertise and has more experience in performing diagnostic conization.

Colposcopic directed biopsy is performed in the Colposcopy Clinic of the Department of Obstetric and Gynecology, Bhumipol Hospital. The result of the colposcopic directed biopsy will guide the physicians to treat patients within the predefined management line.

C. The Measurements

1. Colposcope

Diagnostic result of colposcope are

- a) Cervicographic description of cervix (map)
- b) Impression of the staging of diseases by the colposcopist using colposcopic criteria
- c) Histopathology of tissue obtained from biopsy under colposcope using pathologic criteria.

Definitive diagnostic result of colposcopy is based on the histopathology of tissue obtained from colposcopic directed biopsy (Benedet, Boyes and Nicholas, 1981).

2. Conization

Diagnostic result of conization is the histopathology result of tissue obtained from conization. (Benedet, Boyes and Nicholas, 1981).

3. Final Histopathology

Final Histopathology is the most severe histopathology result of the cervix obtained from patients

by various methods (combination of colposcopic directed biopsy, conization and other definitive surgery) (Benedet, Boyes and Nicholas, 1981).

Details of The Experimental Manoeuvre

All women who attend in Gynecology clinic at Bhumipol Hospital, Pap smear must be performed except for those who have normal Pap smear within a year.

The patients who have abnormal Pap smear should be advised to attend the Colposcopic clinic. In the clinic, patients will be asked about symptoms and other related history. Full medical examination will be performed by the physicians. After that, patients will be told about the details of their illness and the diagnostic procedures. Patients should receive all information about the benefit and complications of the diagnostic procedures as well as the hazard of the disease. Patients have their own right to decide whether or not they want to participate in the study. If the patients decide to participate, they will receive the information note and consent form, the colposcopic examination will be performed after the patients sign their name in the consent form.

The histopathology result of tissue gained from colposcopic biopsy will guide the physicians to manage patients within the predefined treatment line.

The reason why conization has to be performed in the patients who are **Inadequate colposcopy** (Inadequate

colposcopy is the cases that the colposcopists cannot totally see the transformation zone, the area of cervix between the original squamocolumnar junction and the present squamocolumnar junction of the cervix by the colposcope, this area cervical neoplasia is most frequently found) (Coppleson and Pixley, 1981) because the foci of the serious cervical neoplasia might be in the hidden area that the colposcopist cannot recognized. The false negative (missing) neoplasia is very dangerous so diagnostic conization in this group of patients is necessary (Townsend et al.,1970; Staf1 and Mattingly,1973).

Some of patients may have **Negative Colposcopy** (transformation zone is totally visualized but there is no abnormal lesions detected by colposcopy.). It means that the Pap smear is false positive (over diagnosis) or colposcopists cannot detect abnormal lesions colposcopically.

To prove that the error is from cytology or colposcopy, the tissue diagnosis of the cervix is the crucial point (Townsend and Richart,1981). In this case, the lesions cannot be seen, so the difficulty is how to sample cervical tissue that represents the true feature of cervix. Conization has it role in these cases. On the basis of cytology we may detect abnormal tissue which has abnormal exfoliative cell detected by cytology. Some abnormal foci are too small to be detected by colposcope. The histopathology examination can detect abnormal tissue by carefully examining the tissue slides though the microscope. The tissue sampling method should be the method that secure cervical tissue as much as possible. So

the diagnostic conization is the method of choice (Chao et al., 1969).

Diagnostic conization will be performed in most of the cases to confirm the diagnostic result of colposcopic directed biopsy except for some patients who are not suitable to be done. In the patients that colposcopic result show invasive cancer or cervical neoplasia stage I or higher, they should be omitted from conization and should undergo further definitive treatments. The patients will be performed diagnostic conization by the oncologists who have experience in this operation. Operation performed in the operating room with modernized anaesthetic equipments and complete resuscitation set, under supervision of experienced anesthesiologists. In the postoperative period, the patients will be closely observed in the recovery room by the anesthesiologists and admitted in the Gynecology ward until chief of staff, who takes responsibility for the patients, can be sure that the patients are safe from the postoperative complications and then the patients will be allowed to go home.

The patients will know how to take care of their wound, and what are prohibited to do during their recovery period at home. The complications and the warning signs of late complication of conization will also be emphasized.

The patients will receive the appointment follow up card to see the physicians and to check for the histology result of the cone section. To increase the compliance of the patients to come back, communications by posts, telephone call, home visit will be used. The patients will have full

convenience to meet the physicians in the first cue every time they come to the hospital and they have the special call number to communicate with the physicians any time they have the trouble.

Details of Diagnostic Procedure

A. Pap Smear

Smears are taken from the uterine cervix with cotton swabs, fixed in equal amounts of ether and alcohol, and stained by the Papanicolaou method. Interpretations are classified into five classes, and a presumptive diagnosis of the lesion is made in every case.

Two slides are routinely submitted: one containing endocervical material obtained by a cotton-tip applicator and the other containing material from a cervical and paracervical scraping using a wooden spatula.

Papanicolaou's smear at our institution are taken prior to colposcopic examination.

Cytologic smears are interpreted by pathologists using standard definitions. Abnormal Pap smears are classified by a modified Papanicolaou method with an accompanying narrative description (Koss, 1979).

1. class III (cytological findings reflecting a histopathological diagnosis of mild or moderate dysplasia, (CIN I or II), severe dysplasia, (CIN III)).

2. class IV (suggestive of carcinoma in situ. CIN III)

3. class V (suggestive of invasive carcinoma).

Definitions and limits of confidence are defined. The cytology reports of the Papanicolaou smears included both a descriptive interpretation and a coded cytologic impression of the most probable histologic diagnosis. When the obvious, specific and identifiable cytologic features are present, a more precise impression of the probable histologic changes are reported (Koss,1979).

B. Colposcopy

Colposcopy is performed in the outpatient setting by two colposcopists using the Olympus colposcope. Colposcopic impressions of the lesions seen under colposcope are made by using the clinical methods and colposcopic criteria recommended by Coppleson et al. (1971), Kolstad and Staf1(1972) and Townsend et al. (1970). Colposcopic directed biopsies are taken from the most significant part of any lesions seen at the time of the initial examination. The results of the colposcopic impression and the colposcopic directed biopsy are then combined to formulate a single diagnosis, called "colposcopic evaluation".

Each colposcopic examination included the application of 3 per cent acetic acid to the cervix, the use of the green filter and a colposcopic magnification of 16x or more when indicated, as well as the use of the Schiller stain to the cervix and upper vagina when the colposcopic findings are grossly at variance with the cytologic impression (Koldstad and Staf1,1982).

The standard colposcopic procedure is carried out with the examination of the cervix following a thorough cleansing with 3% acetic acid solution to enhance the visibility of vascular and epithelial changes. Following an insertion of vaginal speculum, the cervix is cleansed with 3 percent acetic acid solution and colposcopic examination of the fornices, cervix and endocervix is performed. Areas of leukoplakia, white lesion, punctation, mosaic and abnormal blood vessels are specifically noted and recorded on the standard colposcopic maps. Selected biopsies are then taken from suspicious areas for cervical neoplasia (white epithelium, mosaicism, punctation or abnormal vascularization). Directed biopsy specimens are taken from the most atypical areas under colposcopic visualization using the Kevorkian biopsy forceps, with immediate orientation of the tissue onto a piece of Telfa Paper and fixation in formalin solution for subsequent histologic examination. (Coppleson and Pixley, 1981)

The colposcopy is considered **satisfactory** if the entire lesions and the squamocolumnar junction are clearly visible, it is considered **unsatisfactory** when colposcopic examination failed to visualize the squamocolumnar junction or when the lesion extended to the endocervical canal beyond the visual range of colposcopy.

The patients will receive the further diagnostic procedure depending on the colposcopy results described later.

1. Patients with **Negative Colposcopy**. This group included patients in whom the squamocolumnar junction is fully visible, but no focal colposcopic is found. A diagnostic

conization is recommended when the cytology is either positive or repeatedly suspicious. Conization is performed in these cases, regardless of negative colposcopy, to evaluate the false-negative rate of colposcopy (Benedet, Boyes and Nicholas, 1976).

2. Patients with Unsatisfactory Colposcopy.

Patients whom the squamocolumnar junction is not fully visible, colposcopy is classified as unsatisfactory because a more severe lesion in the endocervical canal could not be excluded. Diagnostic conization is recommended (Benedet, 52 Boyes and Nicholas, 1976).

3. Patients with a Focal Colposcopic Lesion.

These patients, a colposcopic directed biopsy is performed under colposcopic vision, using a Kevorkian-Younger biopsy forceps. Before the biopsy, the colposcopic impression of the anticipated cervical pathology is recorded. This impression is based on five morphologic features of the focal lesion, (areas of leukoplakia, white lesion, punctation, mosaic and abnormal blood vessels) which are easily observed with the colposcope:

- a) Vascular pattern,
- b) Inter-capillary distance,
- c) Clarity of demarcation of the lesion,

Patients with a focal colposcopic lesion, diagnostic conization is recommended except for some conditions that will be described later.

C. Cervical Conization (Kistner, 1986)

Under adequate general anesthesia, the patient is placed in the dorsal (supine) lithotomy position. The vagina and perineum are gently prepared with povidone-iodine (Betadine) to avoid bacterial infection from vaginal flora. After the bladder has been catheterized, an pelvic examination is performed to rule out existing pelvic disease. A weighted retractor is placed in the posterior fornix, a Sims retractor is placed anteriorly, then cervix is visualized. Colposcopy or Schiller's test is performed to delineate the extent of disease on the portio of cervix. A tenaculum is placed on the portio of cervix anteriorly, above the planned limit of the cone biopsy. Lateral-angle sutures are placed into the stroma of the cervix at the 3 o'clock and 9 o'clock positions to ligate the descending branches of the uterine artery. These sutures are left long (for tying at the end of the procedure). The body of the cervix is infiltrated with a dilute solution of vasopressin in saline (20 units in 20 ml), or Marcaine hydrochloride (bupivacaine) epinephrine 1:200,000 which aids in homeostasis.

The mucosa is incised circumferentially maintaining in 2 to 3 mm beyond the lesion (as delineated by colposcopy or Schiller's staining). A cone shaped specimen in a length of 1.5 to 1.8 cm is carefully excised encircling the endocervical canal. Care is taken to avoid prematurely entering the canal, since neoplastic tissue might then be left behind. A uterine sound may be placed within the canal to aid the dissection. Manipulation of the mucosa of the specimen

should be avoided. Traction may be attained by placing sutures within the stroma of the cone specimen or by grasping the area with forceps. A suture is placed at the 12 o'clock position in the stroma of the specimen to aid the pathologic orientation. The uterus is then sounded and dilated, then an endometrial sample is taken as desired.

Bleeding is usually minimal with this technique, however, persistent bleeding points may be electrocauterized or ligated with size 0 chromic sutures in a figure-of-eight pattern. The canal is then packed with Surgical gauze, which is gently tied into place with the long ends of the lateral sutures. The patient is usually observed overnight and then discharged home with instructions to avoid douching, use of tampons, and intercourse for two weeks.

D. Histopathology

Each cone biopsy specimen is cut into 12 to 24 blocks and step sections are made. Each slide is examined for grade and extent of the lesion.

All histologic material is classified by the staff of pathologists without clinical history or knowledge of which biopsies correlated with which conizations.

E. Histologic Criteria

The pathological terms used are those defined by Boyes et al. (1981).

The histological diagnosed are:

- 1) Physiological epithelium (CIN 0)

- 2) Dysplasia (mild, moderate or severe)
(CIN I , CIN II , CIN III)
- 3) Carcinoma in situ (CIN III)
- 4) Possible microinvasion (as seen in punch biopsy specimens); or invasive squamous carcinoma. (CIV.)

The diagnosis of the histologic continuum of epithelial changes associated with CIN are based on the same morphologic criteria accepted by most pathologists. Both the degree of severity and the relative extent of the cellular changes involving a given segment of epithelium formed the basis for providing a semiquantitative and arbitrary division of CIN into mild, moderate, and severe dysplasia, culminating in CIS where the entire thickness of the epithelium is occupied by frankly neoplastic cells. It is emphasized that the neoplastic cells in CIS may display varying degrees of maturation in the form of keratinization. This concept has been widely recognized and is a variance with an earlier definition of this lesion (Banghardt,1973).

The term microinvasive carcinoma is used to describe lesions in which discrete foci of malignant cells are seen to superficially penetrate the underlying cervical stroma.

The presence of confluent measurable areas of invasion seen only on microscopic examination is the principal histologic criteria used to assign patients to the occult invasive carcinoma category. A specific histologic pattern is believed to be more important than the actual measured depth of the invasion. In general, the depth of invasion in microinvasive lesions is less than 3 mm in patients so classified.

In this study, the microinvasive lesion is included as one of the invasive stages.