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The Early Detection of Female Genital Cancer

by

T. A. Sinnathuray, MB, FRCS (G & E), MRCOG.

KANDANG KERBAU HOSPITAL, SINGAPORE.

Introduction:

Cancer of the genital tract, in general, and carcinoma of the cervix, in particular, can be said to be the leading cause of death from cancer in the female population, in most parts of the world. Although it is accepted that certain physical or chemical agents, or certain pathological lesions tend to predispose to cancer in the different parts of the human body, the real aetiology of cancer is still enshrouded in obscurity. In the light of this state of affairs, our main weapon to reduce the mortality from cancer lies in the implementation of a policy of early detection of the cancerous lesions. This statement applies, without reservations, to female genital cancer, where accessability of the lesion is an added factor, in contrast to their male counterpart.

TABLE I—CLASSIFICATION OF GENITAL CANCER

1. **VULVA:** Carcinoma—< Squamous / Adenocarcinoma
   Malignant Melanoma
   Sarcoma } Very Rare
   Teratoma }
   Secondary Carcinoma—< Uterine (Cx. & body) / Chorioepithelioma
2. **VAGINA:** Carcinoma—Squamous
   Sarcoma —Very Rare
   Secondary—< Uterine (Cx. and body) / Chorioepithelioma
3. **CERVIX UTERI:** Squamous Cell Carcinoma—94.5%
   Adenocarcinoma—5.5%
4. **CORPUS UTERI:** Adenocarcinoma
   Adenoacanthoma
   Sarcoma—4.5% of Uterine Malignancies.
   Chorioepithelioma.
5. **FALLOPIAN TUBES:** Primary Carcinoma—Very Rare.
   Choriocarcinoma—Very Rare.
   Secondary Carcinoma—Commoner.
6. **OVARY:** **25% of all ovarian Tumours are malignant:**
   Common: { Serous Cystadeno-Carcinoma—< Papilliferous. / Non-Papilliferous.
   { Pseudomucinous Cystadeno-Carcinoma—< Papilliferous. / Non-Papilliferous.
   Primary Solid Ovarian Carcinoma; Dermoid Cyst with Malignant changes;
   Teratoma—Chorioepithelioma; Granulosa Cell Carcinoma; Sarcoma (Very Rare).
   Secondary Metastatic Carcinoma: Stomach, Corpus Uteri:
   Colon, Chorioepithelioma.

In Table I, I have attempted to classify the common types of cancerous lesions that one may meet with in the female genital tract. The very rare types of lesion have been intentionally omitted. This table serves as a basis to the clinician of the common types of cancer that may present themselves for the detection and treatment. Unless the doctor is aware of the clinical presentations of these gynaecological cancerous lesions, their early detection will be not possible.

cases. More recently Professor Macafee (1962) in his personal series of 86 cases of carcinoma of the vulva, found leucoplakia vulvae to be a predisposing factor in 61·6% of the cases. Professor Jeffocoate (1961) is however, one of the leading authorities, who holds a firm view that leucoplakia vulvae is not a precancerous condition, and to quote from his textbook (1957). "Figures of 30% and 50% risk in leucoplakia are quoted, but I have no evidence to support them. Indeed,

TABLE II—PRE-CANCEROUS CONDITIONS OF THE GENITAL TRACT.

1. **VULVA:** Leucoplakia Vulvae.
   Papilloma (True Papilloma)
   Condylomata Acuminatum.
   Melanoma—Junctional Naevus.
2. **VAGINA:** Pessary Ulcerations of Vagina.
   Leucoplakia Vagina (Very Rare).
3. **CERVIX UTERI:** Carcinoma-in-Situ.
   Leucoplakia Cervix (Very Rare).
4. **CORPUS UTERI:** Postmenopausal Endometrial Hyperplasia—especially Adenomatous type.
   Feminising Ovarian Tumours acting upon the Menopausal or Premenopausal Endometrium.
5. **OVARY:** Every Ovarian Tumour should be treated as malignant or potentially malignant.
6. **TROPHOBLASTIC:** Hydatidiform moles are potentially pre-malignant, especially in women over the age of 40 years.

For the early detection of female genital cancer, a knowledge of the pre-cancerous lesions, that may occur in the female genital tract is invaluable. In table II above, I have attempted to make a list of the possible pre-cancerous lesions of this region.

Leucoplakia Vulvae is accepted by most leading authorities as a precursor to vulval carcinoma. Wallace (1955) had stated that Vulval cancer seemed as likely to develop in an area of apparently quiescent leucoplakia as in the grossly thickened patches. Way (1948) in his Hunterian oration reviewed 130 cases of carcinoma of the vulva seen by him over a 10-year period, and found leucoplakia vulva to be a predisposing factor in 78% of these cases. Taussig (1940) quoted an incidence of 50% with leucoplakia vulvae in his series of 155 cases, and Green (1958) found an incidence of 58% in his series of 238 very few gynaecologists have ever seen cancer develop in a woman under observation for leucoplakia."

Papilloma of the vulva can occur in one of the two forms, the relatively rare true papilloma and the common condyloma acuminatum (Novak & Novak, 1958). The true papilloma appears as a warty growth, of variable size, slow growing and usually occurs in women beyond the middle age. The condyloma acuminatum is often referred to as the venereal wart but this is not always the underlying cause. The more important factor is local irritation from vaginal discharge combined with uncleanliness. Novak and Novak (1958) state that malignant degeneration may occur in either the true pallilloma or the condyloma acuminatum. They quote an incidence of 2.3% malignant degeneration for the true papillomas, and state that in the case of the condyloma acu-

minatum, such changes are rarer. Embrey (1961) described a case of extensive carcinoma of the vulva arising from a pre-existing mass of condyloma acuminatum.

Cade (1961) in his Bradshaw Lecture, had stated that all pigmented moles in the vulval region, in the palm of the hand, sole of the feet, and in the glans penis, are of the "Junctional Naevus", type. He further stated that these "junctional naevi" are potentially unstable, and may readily become active and undergo metaplasia into a malignant melanoma. He firmly advocated their removal, optimally before the age of puberty when these lesions are quiescent. He stated that there was no evidence that their removal precipitated a malignant change. Like all other forms of precancerous lesions, only a small percentage of junctional naevi in the vulva become malignant.

Professor Russell (1961) has described 6 cases of primary carcinoma of the vagina that followed the prolonged use of vaginal pessaries in the treatment of prolapse. All his six patients were senile, over the age of 65 years, except for one who was aged 55 years. In all these cases, the pessaries had been used for very prolonged periods, ranging from 10 to 50 years. The prolonged use of pessaries in these senile patients had led to the development of chronic vaginal ulcerations, which in turn predisposed towards an ulcerative carcinoma of the vagina. In view of these dangerous complications, Russell (1961) suggested that there was no place for the prolonged or permanent insertion of vaginal pessaries in the management of prolapse, in modern gynaecological practice.

Leucoplakia of the vagina and cervix are extremely rare lesions, in contrast to leucoplakia vulvae; but when they do occur, they are just as precancerous a lesion as the latter and should be treated on similar lines.

Carcinoma-in-Situ of the cervix is also referred to as intraepithelial or pre-invasive carcinoma of the cervix. Cervical carcinoma-in-situ is indistinguishable clinically on the one hand from chronic cervicitis, and on the other hand, from an early lesion of invasive cervical carcinoma. The diagnosis of cervical carcinoma-in-situ is essentially a histological one. However, it is accepted by most leading authorities (Papanicolaou, Ayre, Boyes te al, Anderson, and McLaren et al) that the use of exfoliative cytological screening services can contribute in a tremendous way to the more economical and speedy selection of those patients who have a cervical in-situ or an early cervical invasive lesion, for final histological confirmation. Further reference to this point will be made later on. Cervical carcinoma-in-situ may not invariably progress to invasive carcinoma, but all the indications suggest that this happens in a high proportion of cases. The frequency with which this invasive change supervenes, and the time taken to do so is as yet not precisely known. There are few series of carcinoma-in-situ cases that have been followed up after diagnosis without active treatment. Kottmeier (1955) found that out of 74 patients in whom a diagnosis of carcinoma-in-situ had initially been made and treated expectantly, 23 of them (31%) developed invasive carcinoma after intervals of 4 months to 18 years. Peterson (1956) found that in his series of 127 cases, untreated, except for the original biopsy, 33 per cent had progressed to an invasive lession at the end of 9 years of observation. Boyes, Fidler and Lock (1962) from Vancouver found that statistical studies of the incidence and prevalence rates of in-situ and invasive lesions suggested that about 60% of in-situ carcinoma may go on to become invasive carcinoma. They also found that morphological studies of cone-biopsies of in-situ and early invasive carcinoma of the cervix suggested a progression of the in-situ lesion to the clinically invasive carcinoma. The above authors (1961) have also produced excellent statistical evidence to show a drop in the incidence of clinical cervical cancer from 28 to 19 per 100,000 population over a 10-year period, and they attribute this to the implementation of a policy of effective surgical treatment of cases of carcinoma-in-situ, after their pick-up by cytological screening. Sinnathuray (1963) found from his study that in the city of Aberdeen, Scotland, U.K., the average age of patients with cervical carcinoma-in-situ was 38.7 years, those with preclinical invasive cervical carcinoma was 42.1 years, and that the peak incidence of clinically invasive cervical carcinoma was in the 50-54 years age-group. The above statistical data of progressive age-groups is an added evidence that there is a definite progression in the pathology of cervical carcinoma from the preinvasive phase to the preclinical (early) invasive phase and ultimately to the clinically invasive lesion. It would

further appear that the latent period between the carcinoma-in-situ phase and the preclinical invasive phase was about 5 years on the average, and that between the preinvasive phase and the clinically invasive state of cervical carcinoma was about 15 years. Similar conclusions were also reached by MacGregor and Baird (1963) on their General Population Screening Survey in Aberdeen, and by Grant (1963) in Glasgow.

It is a well aceepted fact that endometrial hyperplasia which occurs in the reproductive phase of life is an innocuous lesion, frequently transient and in no way related to malignant trends (Novak 1958). However, most leading gynaecologists, and amongst them Novak and Novak (1958), Gusberg (1947), Hertig et al (1949), Speert (1952), and Telinde et al (1953) have all expressed strong views that cystic glandular hyperplasia of the endometrium, occuring in the menopausal or post-menopausal age-groups, can predispose towards endometrial cancer, especially if the lesion is of an adenomatous type. It is further stated that the tendency to develop endometrial cancer is greater if there is, in addition, a prolonged unopposed abnormal oestrogen stimulus acting upon the hyperplastic endometrium. This abnormal oestrogen stimulus can result from the late onset of menopause, from the effects oestrogen secreting ovarian tumours such as granulosa cell tumours and feminising thecomas and luteomas, or from the effects of prolonged oestrogen therapy in cases of pre-menopausal dysfunctional uterine bleeding.

The ovary can be the seat of either primary or secondary carcinoma, and both are relatively frequent. In the female reproductive tract, the ovaries are second only to the uterus as the seat of cancer. The overall incidence of malignancy in ovarian tumours has been quoted by several authorities to be around 25%, that is, one in about every 4 patients who present at a gynaecological clinic with an ovarian tumour are liable to have an ovarian carcinoma. Under these circumstances, the early detection of ovarian cancer is only possible by adhering to the dictum that every ovarian tumour is malignant or potentially malignant until this is proved otherwise by surgical excision of the tumour and subsequent histological confirmation of the pathology. The incidence of malinancy in ovarian tumours varies slightly with age —being about 10% in patients under the age of 30 years and above 25% in those women above the age of 45 years. Hence for the early detection of ovarian cancer, surgical excision without undue delay is most imperative. The only exceptions to this policy are in those cases where the enlarged ovaries are smaller than the size of a duck's egg —where the pathology is usually a non-neoplastic cyst; or in those cases where an uncomplicated ovarian tumour presents in the first or third trimester of pregnancy, where the surgery can be delayed into the second trimester or into the puerperium respectively.

Hydatidiform mole is foetal in origin. There is still a difference in opinion as to whether hydatidiform mole is to be looked upon as a degenerative or as a neoplastic lesion. Hertig and Mansell feel that mole is a degenerative process, though capable of neoplastic change to choriocarcinoma.

The proportion of cases of hydatidiform mole which become malignant has been estimated variously from 1 to 2% to as much as 10%. Novak & Novak (1958) probably feel that those authorities who report a high incidence of malignant change may in fact be interpreting as chrioepithelioma, what many would consider as incompletely removed moles, which are benign even though there is considerable trophoblastic proliferation. They, therefore, consider the incidence of malignant change to be nearer the 2% than the 10% mark. From the chorioepithelioma angle, it is stated that about 40% are preceded by mole, another 40% by abortions, and in the remaining 20% by normal pregnancy (Novak & Novak, 1958).

Clinical Aids in Early Diagnosis

1. Clinical History:

The clinical history is of invaluable help for the early diagnosis of genital cancer, just as it would be for the early diagnosis of cancer in any part of the human body, provided both the doctor and patient are aware of the cardinal clinical symptomatology in question. Hence the proper orientation of both the doctor and the patient towards the state of cancer-consciousness can contribute immensely towards the earlier detection of genital cancer.

The following are some of the cardinal features in the clinical history that one should take cognisance of, for the early detection of genital cancer *viz*:-

i) *Abnormal Bleeding Patterns:* Intermenstrual and post-coital vaginal bleeding in women past their mid-thirities should always arouse the suspicion of carcinoma of the cervix. Menopausal menorrhagia, especially when associated with late onset of menopause, or post-menopausal bleeding, can be strongly suggestive of endometrial carcinoma. Irregular episodes of post-menopausal bleeding can also be suggestive of carcinoma of the cervix, vagina, vulva and in rare instances, the fallopian tubes. Abnormal bleeding patterns, following upon a recent evacuation of a hydatidiform mole, or upon a recent abortion or confinement, and especially if the bleeding is of a "prune juice" type, should draw one's suspicion of a possible chroioepithelioma.

ii) *Discharge:* In most instances, a clear white, non-offensive leucorrhoea is not associated with genital cancer. However, an offensive bloodstained leucorrhoea can be a diagnostic feature suggestive of carcinoma of the cervix, endometrium, fallopian tubes, vagina or vulva, especially if it occurs in the susceptiable age-groups.

iii) *Discomfort and Pain:* Pain, in general, is taken as a late symptom in genital cancer, and hence to await for pain as a diagnostic feature is to have waited too long! However, it is stated that symptoms of vague abdominal or pelvic discomforts or dyspepsia, in the middle age, are usually the first symptoms of ovarian cancer (Jeffcoate, 1957).

iv) *Swelling and Distension:* Like pain, swelling and distension is, in general, regarded as a late feature of genital cancer, and to await the presence of such symptoms for the diagnosis, is often to wait until too late. However, patients, especially in the menopausal or post-menopausal age-groups who complain of swelling in the vulval region or of abdominal distension, should be carefully examined for the detection of vulval or ovarian carcinoma.

v) *Medical History:* Knowledge of the medical history is in some cases of help, to the gynaecologist, for the early detection of genital cancer. The co-existence of diabetes mellitus in patients having symptoms of vulval or endometrial carcinoma should strongly reinforce the gynaecologist's suspicion of the pathology. Again, the very rare ovarian tumour of strumaovarii can present to the clinician as a case of thyrotoxicosis, with absence of pathology in the thyroid gland.

vi) *Family History* As for cancer elsewhere in the body, there is a familial bias in cases of genital cancer, and there have been reports of instances of endometrial, cervical or vulval carcinoma occuring in the same familial group, either in the same generation or in subsequent generations. Family history may also be helpful, when one realizes that endometrial cancer tends to occur more commonly in unmarried women or in women of low parity, whereas cervical cancer is associated with women of high parity.

2. Gynaecological Examination:

A full gynaecological clinical assessment of the patient will include:-

(*a*) Abdominal examination.

(*b*) Bimanual vaginal examination.

(*c*) Vaginal Speculum examination.

(*d*) Rectal examination.

From the aspect of early diagnosis, an abdominal examination is only of value in detecting the presence of palpable ovarian swelling. The presence of enlarged nodular liver, ascites, or palpable inguinal lymph-nodes are all usually indicative of advanced state of cancer, whether it be in the ovaries, uterus or vulva.

Bimanual vaginal examination can be of help in detecting enlargements of the ovaries, fallopian tubes or corpus uteri which may fit into the rest of the picture of a possible cancerous lesion. Digital vaginal palpation of the cervix uteri or vaginal walls may detect the presence of a bleeding ulcer, which could be an early carcinomatous lesion of the cervix or vagina.

Speculum insertion and inspection of the cervix uteri and vaginal walls is a compulsory routine in those patients who complain of discharge or abnormal bleeding patterns. Such inspection may reveal the presence of an early suspicious looking carcinomatous ulcer in the Vaginal mucosa or cervix, warranting an immediate biopsy for the confirmation of the diagnosis.

Rectal examination in the detection of female genital cancer, is essentially of use to differentiate advanced carcinomatous lesions of the uterus or vagina, where there is evidence of induration in the parametria or other pararectal tissues, from an early lesion, where the rectal examination may be negative.

3. Ancilliary Aids in the Early Diagnosis:

(1) *Cytopathology:* Papanicolaou can be regarded as one of the earliest Scientists to enunciate the value of Exfoliative Vaginal Cytology in the Early Detection of female genital cancer. He had advocated its use for the early detection of cancerous lesions, as early as 1923. But it was not until 25 years later that his wisdom was fully realised, and in 1948 the American Cancer Society sponsored the First National Cytological Conference, which stated that cervical carcinoma-in-situ could be diagnosed by the examination of vaginal cytological smears. Thereafter, the value of exfoliative cytology as a method of detection of unsuspected cervical cancer became firmly established. At present, almost all gynaecological centres in the United States, and several centres in the United Kingdom have established a cytological service for the early detection of the cervix by the routine screening of gynaecological and obstetrical patients.

In most centres, only women of 25 years of age and more have needed to be screened by cytological smears, because cervical cancer below this age is extremely remote. The usual regime of screening consists of taking scrape smears from the cervix using the Ayre's wooden spatula. The smears are stained by the special Papanicolaou method. All the stained smears are initially screened by trained technicians, who are referred to as Scanners, and they report on all smears which appear absolutely healthy. Doubtful or suspicious smears are passed to the experienced cytologists for final diagnosis. Patients from whom a positive smear is obtained are admitted to hospital for further investigation. Smears are repeated, and if these confirm the previous findings, a wide "conebiopsy" of the cervix is taken, and thoroughly examined, histologically. The diagnostic differentiation of carcinoma-in-situ lesions from early clinically invasive lesions of the cervix is made on the histological picture of the lesion.

I present, herewith, in Table III, the results of cervical cytological screening, as carried in the Aberdeen Regional Area, during the 4-year period, April 1958 to March 1962, following the inception of the Service. These results have been more fully reviewed by me elsewhere (Sinnathuray 1963).

During the 4-year period under review, 16,391 patients had cytological smears taken from the cervix, yielding 157 positive cases. In none of these patients did the symptoms or the findings at clinical examination lead the gynaecologist to suspect carcinoma of the cervix. The gross "pick-up Rate" in this large survey is 0.96%, and this agrees with those of most other workers. Yule and Cameron (1961) had a gross pick-up rate of 1.2% during the first 2 year period, and Anderson (1959) had a gross pick-up rate of 1% in a study of 19,464 patients screened over a 9-year period. The gross pick-up rate is also found to be higher amongst the gynaecological patients as compared to the postnatal cases. The pick-up rate is highest in the 30 to 39 year group (1.27%) and the 40 to 49 year group (1.3%). The pattern of distribution of pick-up rate by age-groups is similar in the gynaecological and obstetrical groups.

When the histology of the cervical cone biopsy of the 157 pick-up cases was analysed, it was found that 27% (42 cases) were pre-clinical invasive carcinoma of

cervix, and this is in complete agreement with the 27% (52 cases out of 197 pick-ups) quoted by Anderson (1959); but Yule and Cameron (1961), however, found a higher figure (32%) during the first 2 years of this survey. The rates of invasive and pre-invasive pick-ups is approximately similar in both gynaecological and obstetrical patients. The discovery of 42 cases of unsuspected early invasive carcinoma of the cervix in the 4-year period emphasises the value of the cervical cytological service to the community. In all these 42 cases, most of whom are young women in their late thirties, carcinoma of the cervix whould have remained undetected but for routine cytology and would have continued to remain undetected till the usual clinical signs had appeared, probably years later when the prognosis would have been much less favourable.

Although the greatest asset of Exfoliative Cytology is its use in the early detection of cervical cancer, Vaginal Cytology can be also used for the early detection of other forms of female genital cancer. The presence of malignant cells in Papanicolaou cytological smears made from the secretions aspirated from the posterior vaginal fornix, can be indicative of a focus of cancer in either the vagina, cervix endometrium, fallopian tubes or even occassionally the ovaries. However, if speculum examination reveals a healthy cervix and vagina, then a positive vaginal smear should arouse the clinician's suspicions of a possible focus of cancer in the endometrium or rarely in the fallopian tubes. This is especiaaly so where there is a co-existing history of abnormal bleeding pattern. In such cases, again, a positive cytological smear will require subsequent confirmation of the cancerous lesion by histological examination of the uterine curettings.

More recently, there have been few reports, both in the United States and United Kingdom, on the use of Fluorescent Cytology, as a screening aid in the early detection of female genital cancer. Frampton (1963) from Hammersmith Hospital, London University and Rockey (1963) from Liverpool University have separately assessed the value of Fluorescent Cytology as a diagnostic aid to the early detection of female genital cancer, and they have compared this technique with the orthodox and well-established Papanicolaou cytology. There seemed to be considerable divergence of views from these two authors on the value of Fluorescent cytology. Frampton (1963) reported very favourably. He stated that the fluorescent method was sufficiently accurate, and that the time taken to stain and screen smears was shorter than with the Papanicolaou method. He also noted that there was no particular ocular fatigue associated with the fluorescence. In his study, no patient, diagnosed as carcinoma of cervix, was missed with Fluorescent Cytology. He concluded that Fluorescent Cytology, probably, had a place in a mass screening campaign for the detection of female genital cancer. In such a campaign, he stated that fluorescent cytology could be utilised for a rapid "prescreening" of large numbers of smears, and those persons whose smears contained cells with an increased fluorescence, could could then be re-screened by the Orthodox Papanicolaou smears. In this way some 80 to 90% of smears could be rapidly screened out as normal, and thus only leaving the remaining 10 to 20% to be screened by the experienced cytologist, without the pressure of excessive screening fatigue.

However, Rockey (1963) found that the fluorescent colour changes were rather non-specific in these fluorescent cytological smears, and thus gave rise to a very high rate of false positive smears. He also found that these smears did not display the cell morphology satisfactorily. He, therefore, concluded that Fuorescent Cytology was rather a dangerous as well as an inefficient method, in comparison to the orthodox Papanicolaou cytology for the early detection of female genital cancer. He stated that it was unlikely to replace the well established Papanicolaou technique in the hands of the expert. In the light of this controversy, it seems unlikely that fluorescent cytology will displace the use of the orthodox Papanicolaou cytology for cancer screening.

TABLE III

RESULTS OF THE FOUR YEAR PERIOD - FROM APRIL 1958 TO MARCH 1962

Age-Groups	Under 30 yrs.	30 to 39 yrs.	40 to 49 yrs.	50 to 59 yrs.	Over 60 yrs.	All Ages
Post-Natal Patients:						
No. of Patients	1,227	1,536	95	-	-	2,858
No. of "Positives"	5	13	2	-	-	20
"Pick-up Rate"	0.41%	0.85%	2.1%	-	-	0.7%
Gynaecological Patients:						
No. of Patients	2,262	4,061	3,526	2,613	1,071	13,533
No. of "Positives"	11	58	45	18	5	137
"Pick-up Rate"	0.49%	1.43%	1.28%	0.69%	0.47%	1.01%
All Patients Screened:						
No. of Patients	3,489	5,597	3,621	2,613	1,071	16,391
No. of "Positives"	16	71	47	18	5	157
"Pick-up Rate"	0.46%	1.27%	1.3%	0.69%	0.47%	0.96%

HISTOLOGICAL DIAGNOSIS BY BIOPSY OF CERVIX:-

Intra-Epithelial Carcinoma of Cervix - - - -	=	115 cases
Early Unsuspected Invasive Squamous Carcinoma of Cervix - -	=	42 cases
TOTAL	=	157 cases

HISTOLOGICAL DIAGNOSIS BY BIOPSY OF CERVIX OF THE 20 POST-NATAL CASES:-

Intra-Epithelial Carcinoma of Cervix - - - -	=	15 cases
Early Unsuspected Invasive Squamous Carcinoma of Cervix - -	=	5 cases
TOTAL	=	20 cases
Average Age of Patients with Intra-Epithelial Carcinoma - -	=	38.7 yrs.
Average Age of Patients with Pre-Clinical Invasive Carcinoma -	=	42.1 yrs.
Age-Group of Married Women in the City of Aberdeen with a peak incidence of Clinically Invasive (overt) Carcinoma of Cervix (Lawson, J.G., 1957)	=	50 to 54 yrs.

2. *Histopathology:* This heading is included in my paper for the completeness of the topic under discussion. As my colleague, Dr. K.K. Tan, will be talking to you at length on the place of histopathology in the early detection of female genital cancer, I shall not say any more in this context.

(3) *Endoscopy:* The place of Endoscopic examinations, be it culdoscopy, coeliascopy or colpomicroscopy, in the early detection of female genital cancer is perhaps not well established yet. In contrast, Endoscopy examinations are of invaluable help to the Surgeons for the early detection of cancer, *viz:*- cystoscopy to detect early bladder cancer, bronchoscopy to detect early bronchogenic cancer, and sigmoidoscopy for the early detection of recto-sigmiod cancer.

Coeliascopy and culdoscopy, perhaps, are of more help in the diagnosis of non-neoplastic pathological lesions in the female pelvis, especially pelvic endometriosis and tubo-ovarian inflammations. To await the diagnosis of ovarian cancer by such methods, is often to have waited too late.

TABLE IV

SUMMARY OF PROGRAMME FOR THE EARLY DETECTION OF FEMALE GENITAL CANCER

1. **HEALTH EDUCATION OF THE PUBLIC.**
2. **ORIENTATION OF THE DOCTOR:**
   - (*a*) Undergraduate Training
   - (*b*) Postgraduate Courses
   - (*c*) General Practitioner Refresher Courses
3. **FULL CLINICAL ASSESSMENT OF CASES:**
   - (*a*) Full Clinical History
   - (*b*) A General Examination
   - (*c*) Thorough Abdomino—Pelvic Assessment
4. **IMPLEMENTATION OF A COMPREHENSIVE CYTOLOGICAL SCREENING SERVICE.**
5. **REDUCTION OF TIME-LAG BETWEEN CLINICAL/CYTOLOGICAL DETECTION AND THE SUBSEQUENT HISTOLOGICAL CONFIRMATION OF THE LESION TO THE ABSOLUTE MINIMUM:**
   - (*a*) Immediate Hospital admission of such cases—not to be left on waiting list.
   - (*b*) Immediate Biopsy
   - (*c*) Request for Urgent Histological Report—depends upon good liaison between clinician and pathologist
   - (*d*) Use of Frozen Sections
6. **USE OF COMPREHENSIVE BIOPSY-TECHNIQUES:**

   Avoidance of isolated biopsies as far as possible—especially for cervical and endometrial cancer detection.
7. **IMPLEMENTATION OF EARLY TREATMENT OF:**
   - (*a*) Established Genital Cancer
   - (*b*) Precancerous conditions of the Genital Tract