SCATTERED THOUGHTS ON CANCER OF THE UTERINE CERVIX*

JAMES T. LOUW, CH.M., F.R.C.O.G.

Professor of Obstetrics and Gynaecology, University of Cape Town

So much has been written and spoken about cancer of the cervix that it must be exceedingly difficult for any one individual to keep abreast of all these writings and reports. What is more, no individual can have an inclination in this direction, not only because of the danger of losing his individuality but also because there is such uniformity about these articles. Masses of figures are usually quoted and re-quoted with one school vying with the other over a percentage of two in 5- or 10-year surveys. It is singularly reminiscent of reports on puerperal morbidity rates before the appearance of sulpha drugs and antibiotics. Yet it is of the utmost importance that these papers should appear, for it shows that active thought and endeavour are constantly being hurled at cancer—at its prevention, early detection and treatment. There is little doubt that inroads are being made on the solution of the riddle of cancer. Anyone with a feeling for a fellow human-being who is a sufferer from this malady, must experience an urge to extend a helping hand but is immediately faced with the hopelessness of affording anything but possible temporary assistance. Nevertheless, there should not be mere pessimism in the approach to cancer. Most of the acute diseases have been subjugated. The chronic inflammations have received severe setbacks. Cancer is next on the list.

THREE CLINICS

In the attempt to come to grips with cancer of the cervix in our unit at Cape Town, a number of teams have been established, working in different directions with different motives, yet with a central core correlating the work done in the study of cancer. In the Groote Schuur Hospital there is a happy relationship between the radiotherapeutic and gynaecological departments. Our constant aim is directed steadily towards the welfare of the patient. Their doors have always been wide open to us, as ours to them. A sound basic understanding exists. Obviously, their main aim is radiotherapy in general, whilst our interest in their department centres around their treatment of patients with gynaecological troubles.

In the Division of Gynaecology the following clinics have been established (each with its own team): (*a*) Cervical erosion, (*b*) vaginal discharge, (*c*) endocrine. Each clinic works on its own problems but centrally a correlation of their work, with the emphasis on genital cancer, is being carried out. The major object of the *vaginal discharge clinic* is to find out more about the etiology, prevention and treatment of vaginal discharges.[1] Centrally, a watch is being kept on their patients in order to assess whether those suffering from any particular infection show more predisposition than others towards cancer of the cervix. It is well known that trichomonad infections may give rise to false cancer-positive cytological interpretations. The work of the *endocrine clinic*[2] is being scrutinized for the possibility of the development of cancer of the uterine body in a certain group of cases. The main function of this clinic obviously is endocrine study. Erosions, their types, etiology and treatment, are studied in the *erosion clinic*.[3] Colposcopic examinations are made, Schiller's iodine tests are performed as well as cytological studies of smears according to the techniques both of Papanicolaou

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1. Dr. F. N. Charnock.
2. Drs. S. B. Cooper and H. Muller.
3. Dr. D. Moore.

and of Ayre. In the erosion clinic, snips and circular biopsies are taken in clinically doubtful cases for the purpose of accurate diagnosis. Cytological studies from February 1955 to May 1956 have revealed the following:

No. of patients examined .. 821
No. of smears studied 1,642

Nature of Report	*No. of Cases*	*Details*
Positive	38	9 confirmed histologically 5 showed no histological evidence of cancer 24 being followed up.
Negative ..	654	1 cancer proved histologically.
Doubtful.. ..	119	57 sufficient doubt to warrant histology. 62 repeat smears studied—all negative.

No positive diagnosis of cancer is made and no treatment instituted before histological confirmation. Every patient with a clinically suspicious erosion or with a positive or doubtful smear-report is admitted to hospital for thorough biopsy under general anaesthesia. All histological studies are made by the Division of Pathology (University of Cape Town and Cape Provincial Administration).

The following is an example of a type of case of great interest:

Mrs. J., 33 years old, visited the out-patient department in the middle of March 1956. She was referred to the erosion clinic, where a smear was taken and the endocervical canal and the erosion were cauterized. The smear report was positive for cancer. She was admitted to hospital early in May, when a snip was taken and no malignancy was revealed histologically. Late in May a further smear was taken; again it was positive. In June another snip was taken and cervical cone biopsy carried out. Innumerable sections were studied and carcinoma-in-situ was detected. Thorough histological appraisement of the uterus, cervix and vaginal cuff following upon further operation did not reveal carcinoma-in-situ; that is to say, the cancerous area had been completely removed by the cone biopsy.

SOCIAL WORKER'S RESEARCH

In addition to these teams a C.S.I.R. social worker on the radiotherapeutic staff[4] became intensely interested in the social aspects of patients with cervical carcinoma. With determination on her side and encouragement from the radiotherapeutic and gynaecological departments and the Social Science Department of the University of Cape Town, she tackled the problem, revealing *inter alia* the following interesting data:

(*a*) The number of cases of cancer of the cervix and of cancer of the breast in women of different races were as follows:

GROOTE SCHUUR HOSPITAL, 1938-48 AND 1953-54

	White	*Coloured*	*Malay*	*Native*
Cancer of the Cervix	267	329	21	18
Cancer of the Breast	403	187	28	12

Note that in the Whites and Coloured respectively the ratio of the incidence of cancer of the cervix to that of cancer of the breast is reversed.

4. Mrs. A. M. Strydom, working on a thesis for a higher degree in social science in the University of Cape Town.

(*b*) The ratio of the incidence of cancer of the cervix to that of cancer of the body of the uterus is 2 : 1 in Whites and 10 : 1 in Coloured. This roughly conforms to sociological reports from the United Kingdom.

(*c*) The age-groups of the patients with cancer of the cervix were as follows:[5]

CANCER OF THE CERVIX: GROOTE SCHUUR HOSPITAL, 1938-54

Age	*White*	*Coloured*	*Total*
Under 40	96	222	318
40–50	151	221	372
50–60	148	142	290
60–70	84	66	150
70 and over	31	22	53
Total	510	673	1,183

The graph of these figures is shown in Fig. 1, demonstrating (1) the rapid decline in the number of cancer sufferers after the age of 50, and (2) that the Coloured outnumber the Whites up to the age of 50.

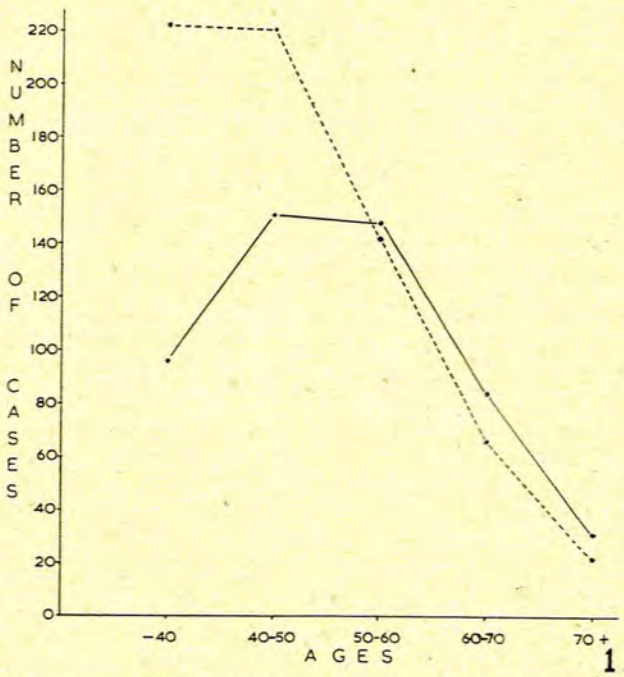

Fig. 1. Cancer of the cervix, Groote Schuur Hospital, 1938-54. White ——— . Coloured ..... .

(*d*) A similar graph, but showing the younger age-groups separately, demonstrates the more rapid rise in the number of Coloured sufferers up to the age of 50 as compared with the Whites. This graph covers the years 1938-48 and 1953-54.

(*e*) The next table compares the patients with cancer of the cervix (by race) and controls in the gynaecological wards and the general wards respectively as regards their habits of sexual intercourse.

5. Mrs. A. M. Strydom and Dr. R. D. Tucker.

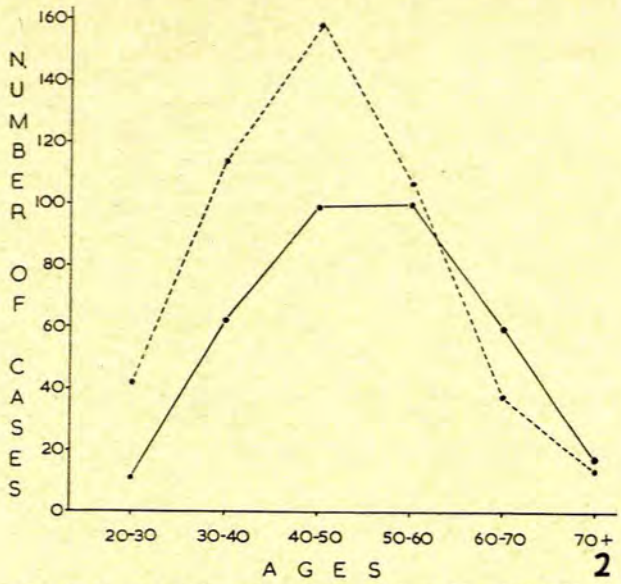

Fig 2. Cancer of the cervix, Groote Schuur Hospital 1938-48 and 1953-54. White ——— . Coloured ..... .

CANCER OF THE CERVIX : GROOTE SCHUUR HOSPITAL APRIL TO NOVEMBER 1955

		Ca. of Cervix	*Gynaec. Control*	*General Control*
Intercourse before 20 ..	White	40%	26%	24%
	Coloured	73%	37%	38%
Marriage before 20 ..	White	37%	25%	24%
	Coloured	40%	19%	26%
Married for 20+ years..	White	66%	54%	52%
	Coloured	61%	33%	53%
Frequency of Intercourse 3× or more weekly ..	White	37%	23%	18%
	Coloured	43%	21%	17%
Extra-marital relationships	White	4%	0%	2%
	Coloured	34%	20%	8%

One feature of these figures is that more patients who suffered from cancer of the cervix gave histories of having experienced sexual intercourse at an earlier age, more frequently, for a longer period of time, and possibly with more partners, than did adequate control groups both in the gynaecological and general wards. Cervical cancer may yet be proved to be a virus disease transmitted by sexual relationship.

In a study of this nature, many interesting stories and features are brought to light. For instance, a Malay (a sect allowing polygamy) had two wives; one died of cancer of the cervix and the other shortly afterwards was diagnosed as, and received treatment for cervical carcinoma. He was asked to call for an examination. A clean, circumcised, fine man presented himself, and no abnormality could be detected. He volunteered that he knew the reason for the examination, i.e. we were after finding out how and why his wives had developed cancer.

TREATMENT

Once invasive cervical cancer is diagnosed, the usual urinary and blood investigations are carried out. The patient is then kept in our wards but handed over to the radiotherapists. The Stockholm method is, generally speaking, the one employed. Rotational therapy is reserved for the more advanced cases. Two months after the completion of radiotherapy, patients are re-assessed in order to evaluate whether operative procedures should be instituted. The criteria for operative interference are difficult to outline. It is factual that a large proportion of these patients have glandular involvement. In spite of the arguments against the combined radiotherapeutic and surgical approaches, it seems reasonable to us to make as sure as possible of eradicating the local manifestations of the disease. With this object in view, in most cases (and without selection) radical hysterectomy and yet more massive procedures following upon radiotherapy have been the treatments of choice. Obviously, surgery is also resorted to whenever radiotherapy is contra-indicated.

Pre-operatively, complete electrolyte studies are made as well as thorough clinical and radiological investigations. The anaesthetist also examines the patient thoroughly. Compatible blood is at the ready. In addition to administering anaesthesia, keeping abreast of shock is one of the anaesthetist's prime objects.

The nature of the operation depends upon the extent of the disease. This can only be thoroughly assessed once the abdomen is opened. With kindly surgery, good anaesthesia and resuscitative measures, there is no need to lose a patient on the operating table—no matter what the extent of the operation. There is no need for the surgeon to be proud. Blood is transfused soon after the onset of operating and regulated according to the patient's need, as judged by the anaesthetist and surgeon. Often it is deemed best to have two teams working simultaneously; e.g. when abdomino-perineal resections are done. (The abdominal team assesses the extent of the disease before the perineal team commences.) At other times one surgeon may do the exenteration and leave the niceties of ureteric transplantation or the construction of an ileal bladder to a fresh surgeon. My colleague the Professor of Surgery (Professor J. H. Louw) and I have worked together at exenterations with lymphadenectomy, whether performed for cancer of the cervix or the rectum.

With increasing experience greater attention is paid to the preserving of blood supply wherever and whenever possible; e.g. in the Wertheim type of operation the superior vesical arteries are dissected out and conserved. This might be an explanation for the minor incidence of ureteric lesions post-operatively. A good way of dealing with the ureters when an anterior exenteration

is done is by tying polythene tubes into the ureters and collecting these through the anus (Fig. 3). An ordinary curved packing forceps is inserted through the anus,

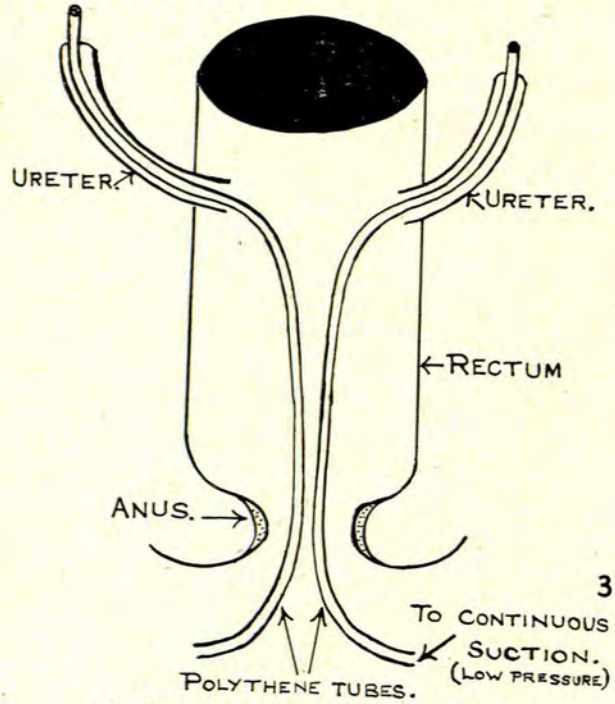

Fig. 3. Low-pressure suction from ureters.

its point being directed by the surgeon. When the site of transplantation is reached the forceps are gently opened and the incision made over its beak. The polythene tube is inserted into the beak and the instrument is gradually withdrawn. The same procedure is carried out on the other side. Once the patient is back in the ward, both tubes are connected to gentle continuous suction. The fluid balance can therefore be accurately assessed from the first post-operative moment. An interesting feature is that the kidneys do not shirk their functions, that is to say, equal amounts of urine are secreted. The polythene tubes are either extruded on their own or removed on the 5th post-operative day. By this time the patient should be well over her first electrolyte hurdle.

Posterior exenterations are fraught with urinary complications. It must be borne in mind that the bladder almost invariably becomes attached to the sacrum. The organ's anatomy is grossly disturbed, and hence it is understandable that its function may be thrown out of gear. After this operation patients experience great difficulty in initiating the act or completely emptying their bladders. In dealing with the ureters in complete exenterations, the construction of an ileal bladder—again with polythene tubes conducting urine from the ureters through the ileal bladder to low-pressure suction—has been done. In one patient the left ureter sloughed, causing her great distress, the urine just draining through the peritoneal cavity to the perineum.

After the operation all these patients are lifted off the theatre table onto their warmed beds brought into the theatre. Multiple bodily movements which add to shock are thus eliminated.

OPERATIVE RESULTS

The results of these major surgical procedures up to the end of May 1956 are as follows:

1. MAJOR OPERATIONS FOR CARCINOMA OF THE CERVIX

Operation	*No.*	*Surgical Urinary Complications*		*Age*		*Post-operative Deaths*	
		V.V.F.	*Ureteric*	*Oldest*	*Youngest*	*Before 5 days*	*Before 1 month*
Radical Hysterectomy	81	0	1	76	24	0	1
Anterior Exenteration	6	0	0	66	43	0	0
Posterior Exenteration	6	2	2	62	31	1	1
Complete Exenteration	5	0	1	57	32	1	2
Schauta	2	0	0	61	57	0	1
Total	100	2	4	—	—	2	5

In all cases, with the exception of those on whom the Schauta's operation was done, pelvic lymphadenectomy was performed.

2. MAJOR PELVIC OPERATIONS FOR CONDITIONS OTHER THAN CARCINOMA OF THE CERVIX

Operation	*No.*	*Age*		*Urinary Complications*		*Deaths*	
		Oldest	*Youngest*	*V.V.F.*	*Ureteric*	*Before 5 days*	*Before 1 month*
Cancer of the Uterine Body							
Radical Hysterectomy	14	64	47	0	0	0	0
Cancer of the Vagina							
Radical Hysterectomy	2	57	44	0	0	0	0
Posterior Exenteration	1	47	—	0	0	0	0
Cancer of the Rectum							
Posterior Exenteration	5	58	42	1	0	0	0

In all these cases pelvic lymphadenectomy was performed.

The total major pelvic surgical cases (personal series) done in the Groote Schuur Hospital up to the end of May 1956 read as follows:

Operation	*No.*	*Post-operative Deaths* *Before 5 days*	*Before 1 month*
Radical Hysterectomy	97	0	1
Anterior Exenteration	6	0	0
Posterior Exenteration ..	12	1	1
Complete Exenteration ..	5	1	2
Schauta	2	0	1
Total	122	2	5

These figures forcibly demonstrate the fact that with modern anaesthesia and resuscitation, no matter what the size or age of the patient, operative hazards can be overcome. With due attention to the conservation of blood supply, bladder and ureteric lesions may be minimized. It is to be emphasized that these patients are an unselected group. The only patients not operated upon were those who refused operation and those who suffered from an additional complication, making the slightest operation an extremely hazardous undertaking.

Nowhere in this paper has any reference been made to the stage of the disease. Staging, to my mind, carries with it too many variables. Because of the very nature of things, human interpretations of clinical signs are not consistent. Furthermore, it is difficult to stage a disease which is a progressive growth, with inevitable additional secondary inflammatory reaction. Staging in diseases like syphilis can be understood, i.e. although the causative organism is constant, the disease goes through what may be compared with the egg, caterpillar, pupa and butterfly stages. These are clear cut, different manifestations. Staging has played its part in the evolution of the study of cervical cancer. It has indicated that the earlier the disease is diagnosed and the sooner treatment is instituted the better are the results; but obviously there are many exceptions to this general rule. By these studies it is hoped that yet earlier symptoms and signs of cancer of the cervix will be elicited and possibly pointers towards establishing etiological factors will be found. Treatments today vary only in intensity and emphasis, but not in nature. Prevention of disease should be our constant aim. However, preventative measures and doctrines did not eliminate venereal disease. It is penicillin that has given it the hardest knock. It is therefore towards the cure of cancer that workers are mainly striving. In the meantime the best methods at our disposal—be it a combination of methods—should be used.

I wish to thank the Superintendent of the Groote Schuur Hospital, Dr. N. H. G. Cloete, and the head of the Radiotherapeutic Department, Dr. J. M. Grieve, for their kind cooperation; my colleagues for referring these patients to me; registrars, housemen and the nursing staff for the excellent attention paid to all the details in every patient; to the C. Louis Herman, Fourcade and Staff Research funds for the financial assistance given towards this work.