

Carcinoma of the Cervix in an Elderly Patient

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Dr. William M. Cole (*Assistant Professor of Family Medicine*): Today's Family Medicine Grand Rounds will address the subject of carcinoma of the cervix in an elderly patient. Debilitating illness in an elderly patient presents a special challenge to the family physician and his health care team. The patient's "illness" is often complex and multiple, requiring breadth of medical knowledge. The patient is frequently isolated, financially troubled, and has difficulty coping with his problems. Proper assessment of these inter-related factors is required for optimal care. The family physician must enlist the help of available medical and community resources and coordinate their efforts toward the common goal of improving the patient's quality of life. The patient profile is presented by Reva Twersky, the Family Medical Center social worker.

Reva Twersky, M.S.W. (*Medical Social Worker*): The patient we are discussing today is an 81-year-old widow who was born in Whitehall, Illinois. She had a grade school education and came to the state of Washington in 1907. She married twice and has one son who is a pharmacist in Bakersfield, California. Son and mother are estranged. Looking into the background, I found that the son's father and our patient were divorced when the child was quite small and that the father raised him. The boy did spend some summers with his mother and there have been some contacts since, but mother and son have not seen each other for the past 12 years.

The patient is very close with her family of origin, that is, with the remaining siblings. She has an 84-year-old sister in Seattle. As long as the sisters were in their own apartments, they used to talk to each other on the phone daily. Her sister is also a patient with us. Her younger brother, who is 69

years old and lives in Texas, communicates regularly with the patient and gives her much support. There are several nephews. One niece and nephew, in particular, used to visit the patient when she was in the hospital. A key person in her environment is one long-time friend who lives in the patient's apartment building. The apartment the patient maintained for 21 years was given up one month ago. She is very proud and never wanted to discuss finances beyond saying, "Everything is taken care of." Her savings have dwindled and with her increased medical needs, it is no wonder. She went on Medicaid on March 1, 1974, and obtained a supplemental grant to her Social Security.

Dr. Cole: Thank you, Reva. Dr. Stephen Gloyd, the patient's physician, will present the medical aspects of the case.

Dr. Stephen Gloyd (*Family Medicine Resident*): Please refer to the patient's Problem List (figure 1) and the Chronological Summary of the clinical course (figure 2) to aid in understanding this patient's complex history.

Problem 1: Carcinoma of the Cervix, S/P radiation.

The patient was in good health until 1952 when she was diagnosed as having squamous cell carcinoma of the cervix. She was treated with external radiation and intracavitary radium and did well until 1972 when she was admitted to the hospital because of pain and weakness in her right hip and leg. Stage III carcinoma of the cervix was diagnosed and she was treated with 5040 rads of external radiation.

Problem 1-a: Edema, Pain, in Right Leg. These symptoms, judged secondary to the recurrent carcinoma and/or radiation, have continued to the present and are controlled with aspirin.

Problem 1-b: Renal Insufficiency, Non-functioning Right Kidney. A non-functioning right kidney due to ureteral obstruction was discovered by IVP during the course of the workup of the patient's cervical carcinoma in February, 1972. The BUN has remained at 25 mg percent and creatinine 1.3 mg percent.

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Figure 1

FAMILY MEDICAL CENTER University of Washington School of Medicine Master Problem List		0-0-00-00-00 Patient 1		
	Date		Date	
#1	8/30/73	Ca of Cervix, Recurrent, S/P Irradiation		
#1a	8/30/73	Edema, Pain Right Leg		
#1b	8/30/73	Renal Insufficiency, Mild; Non-Functioning Right Kidney		
#1c	8/30/73	UTI's, Recurrent, Vesicovaginal Fistula (1972)		
#1d	8/30/73	Irradiation Proctitis, Recurrent Rectal Bleeding	4/74	Sigmoid Colon Obstruction, Colostomy
#1e	8/30/73	Abdominal Pain Secondary to #1		
#2	8/30/73	ASCVD, S/P MI (5/73) Compensated Chf, Ventricular Aneurysm		
#3	8/30/73	Anemia (1973) FE Deficiency & Hypoproliferative		
#4	8/30/73	Calyceal Stones, Left		
#5	2/4/74	Bilateral Cataracts		
#6	2/5/74	Psychosocial Status		
#7			4/74	S/P Left Leg Thrombophlebitis

Problem 1-c: Vesicovaginal Fistula, Recurrent Urinary Tract Infections. In February, 1973, one year after treatment with radiation, urinary incontinence and hematuria developed. Cystoscopy suggested tumor invasion of her bladder and vesicovaginal fistula. This problem was treated successfully with an indwelling Foley catheter and the fistula closed off.

Problem 1-d: Radiation Proctitis, Recurrent Rectal Bleeding. In May, 1973, the patient was admitted to University Hospital for rectal bleeding. Her hematocrit was 23

Figure 2

Chronological Summary of Clinical Course		
March 29	1893	Birthdate
	1916	Hysterectomy, supracervical
	1952	Carcinoma of cervix, Stage I, radiation implant treatment
February	1972	R leg weakness, Stage III carcinoma of cervix
March-April	1972	Treated—5040 rads Cobalt-60 Post radiation diarrhea IVP—non-functioning R kidney, L calyceal stones
February	1973	Vesicovaginal fistula, urinary tract infection
May	1973	Hospitalized—Rectal bleeding secondary to radiation proctitis Diaphragmatic myocardial infarction Mild congestive heart failure
July	1973	Exacerbation of rectal bleeding
August	1973	Referral to Family Medical Center (FMC) from GYN for unified care
Aug.-Dec.	1973	FMC & GYN office visits for rectal bleeding Congestive heart failure evaluation, vesicovaginal fistula
December	1973	Hospitalized four days —rectal bleeding and anemia —transfused
January 14	1974	Transfused in FMC
January 28	1974	Transfused in FMC
January 30	1974	Hospitalized—rectal bleeding—transfused
February 15	1974	Inferon I.V. in FMC
Feb. 25-27	1974	Hospitalized—rectal bleeding—transfused
March 11	1974	Home visit—rectal bleeding
March 22	1974	Home visit—urinary tract infection
March 24-April 19	1974	Hospitalized—partial sigmoid colon obstruction Transfused Pelvic abscess drained Diverting colostomy performed Discharged to nursing home
April	1974	Pyuria—draining pelvic abscess through bladder
May	1974	Nutrition problems Depression, mild, transient

percent and a sigmoidoscopy revealed proctitis consistent with radiation proctitis. Upon discharge from the hospital, during which time she was diagnosed as having a diaphragmatic myocardial infarction discussed under problem two, she was followed by physicians in Gynecology, Radiation Oncology, Urology, and Medical Clinics. It was felt that her multiple problems could best be coordinated by a single physician and she was referred to the Family Medical Center. Recurrent rectal bleeding was her major problem at that time, but it was controlled by stool softeners, appropriate dietary regimen and iron supplements. The frequency of rectal bleeding increased in December, 1973, and continued into April, 1974. During this time she was managed at home and in the office with steroid retention enemas and repeated transfusions in both the office and the hospital as outlined in the Chronological Summary. The threshold for transfusion was usually at the point when her hematocrit dropped below 25 percent and symptoms of congestive failure became manifest. Consultation backup was provided throughout these events by the University of Washington Clinical Cancer Group, a multidisciplinary group of physicians. It was clinically impossible to judge whether the pelvic process was a recurrent tumor or a complication of radiation. However, no further direct treatment such as surgery or radiation was advisable.

On March 24, 1974, she was hospitalized with partial sigmoid colon obstruction. Gastrointestinal and surgical consultants agreed that a transverse colostomy was necessary and it was performed. The distal defunctionalized segment was brought out as an abdominal mucous fistula and a pelvic abscess was drained. The patient was discharged to a nursing home where rectal bleeding ceased. The pelvic abscess continues to drain through an abdominal fistula, and the colostomy functions well.

Problem 2: Arteriosclerotic Cardiovascular Disease, S/P MI, Compensated CHF, Ventricular Aneurysm.

In May, 1973, the patient sustained a diaphragmatic myocardial infarction. Subsequently, she developed a ventricular aneurysm but her congestive failure is compensated on digitalis and diuretic therapy.

Problem 3: Anemia, Iron Deficiency and Hypoproliferative.

A chronic microcytic anemia with a hematocrit in the 30 percent range had been present for approximately one year with intermittent subacute drops requiring transfusion. Reticulocyte index fails to respond normally to iron therapy. The hematocrit, however, has been stable subsequent to the diverting colostomy which successfully controlled the rectal bleeding due to radiation proctitis.

Problem 6: Psychosocial Status.

Following the colostomy and nursing home placement, the patient became depressed, refusing to eat and losing her usual cheerful approach to life. Frequent supportive physician, nurse, and social worker visits over two to three weeks resolved this problem, and the patient has now begun to eat better and participate in physical rehabilitation consisting of muscle-strengthening exercises.

Problem 7: Thrombophlebitis, Left Leg.

Before her colon surgery, the patient developed deep

vein thrombophlebitis of the left leg. Anticoagulants were contraindicated because of the rectal bleeding and the problem resolved with conservative therapy consisting of heat and elevation of the leg.

Dr. John A. Lincoln (*Associate Professor of Family Medicine*): You mentioned that this woman was originally sent to Family Medicine because she was being seen by many different groups, but later you referred to the fact that she had been seen by a number of other people since she has been in Family Medicine. Have you managed to maintain some kind of continuity with her and if so, do you think this has been beneficial to her?

Dr. Gloyd: I think that we have been able to provide a great deal of continuity for her through Marty McClelland, our team nurse; Reva Twersky; Dr. Cole, team faculty physician; and myself. The four of us have handled most of the problems and most of her clinic, hospital and nursing home visits. I mentioned that a number of other people have been involved because of the complexity and scope of treatment her problems demanded. For instance, Elaine Jorgenson, visiting nurse, originally visited twice a week, but there came a time when the patient needed someone twice a day. I think, however, that she has benefited a great deal from knowing primarily one person well and relying on him for her long-term care.

Dr. Cole: I have asked Dr. Gerdes of the Radiation Oncology service to comment on carcinoma of the cervix, its management and complications.

Dr. Arthur Gerdes (*Assistant Professor, Radiation Oncology*): I would like to discuss briefly cancer of the cervix in general in order to help put this case in its proper perspective.

Cancer of the cervix is a very important neoplasm and, as of 1968, has become third in frequency in females in the United States. Although highly amenable to cure in its early stages by appropriate treatment, it nevertheless resulted in approximately 10,000 deaths in the United States in 1968.¹ Figure 3, taken from the 1970 American Cancer Society Facts and Figures, demonstrates some interesting changes in incidence and death rates.

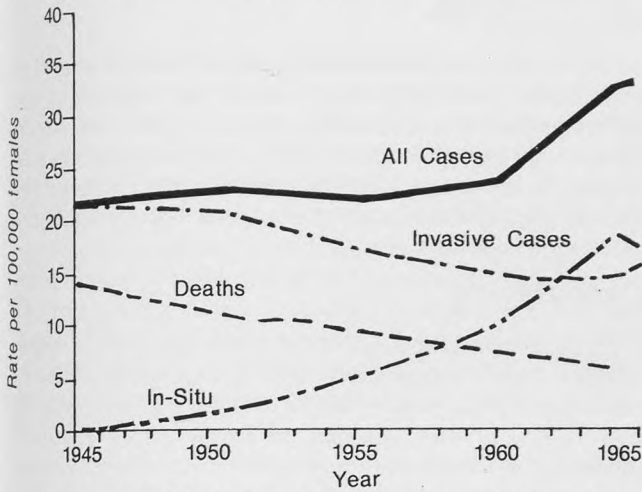
While the incidence rate continues to increase, the death rate has been steadily declining since 1945. It has been well documented that better and more intensive treatment improves cure rates. However, increasing control of the disease appears to have resulted mainly from more widespread use of cytological examination which leads to a higher frequency of diagnosis of carcinoma *in situ*. This is a highly curable entity and its effective treatment has led to a decreasing incidence of invasive, more extensive carcinoma.

Spread of Tumor

Cancer of the cervix is easy to diagnose since it is readily available for visualization, palpation and biopsy. A major deterrent to early diagnosis is the lack of signs or symptoms so that, unless routine examinations including Pap smears are performed, the disease may be locally quite extensive before it is detected. The pattern of progression is quite predictable. It spreads most commonly by direct extension off the cervix into the adjacent vagina or into the parametria.

**Cancer of Uterine Cervix
Death Rates and Incidence Rates*
New York State Except New York City, 1945-1965**

Figure 3



*Rate per 100,000 population standardized for age on the 1940 census population of the United States, from the New York State Department of Health.

As local disease increases in extent, the incidence of lymphatic spread to the pelvic lymph nodes is also at greater risk. Spread by hematogenous metastases is infrequent and the tumor often remains limited to the pelvis until it has become locally quite extensive.

Clinical Staging

Careful appraisal of tumor extent is very important in helping to define the best therapeutic approach and in permitting a careful assessment of results. Such evaluation has profited from essentially world-wide adherence to rules for clinical assessment. These rules have been revised periodically and were reissued in 1972 by the American Joint Committee for Cancer Staging. They are:

- Stage 0 — carcinoma *in situ* or intra-epithelial carcinoma
- Stage I — carcinoma confined to the cervix
- Stage II — carcinoma extending beyond the cervix but not reaching the pelvic wall or lower third of the vagina
 - II-A — extension to vagina
 - II-B — extension into one or both parametria
- Stage III — carcinoma reaching the pelvic wall or the lower third of the vagina
- Stage IV — carcinoma extending into bladder or rectum or extending outside the true pelvis either by direct extension or hematogenous spread

Pathology

Five to ten percent of the tumors will be adenocarcinoma while the remainder will be squamous cell carcinoma of varying histologic differentiation.² The histology *per se* has

not been observed to influence treatment; management is determined primarily by extent.

Treatment

Curative treatment first became available in 1898 with the introduction of an extensive surgical procedure by Wertheim. In succeeding years, radiation techniques were developed and by 1932 results revealed that tumor control with radiation was superior to surgery and morbidity was less. Radiation has remained the treatment of choice for most invasive carcinomas. Carcinoma *in situ*, if properly diagnosed, is a very localized disease and highly curable by hysterectomy. Most often it is best treated in this manner but, contrary to popular opinion, it is also sensitive to radiation and can be effectively treated this way when surgery is contraindicated.

Stage I disease has a well-documented incidence of pelvic lymph node involvement of 15 to 20 percent. Even with improved surgical techniques, such lymph node involvement observed at radical surgery has been accompanied by poor survival statistics, often prompting the attempt to give such patients radiation postoperatively with attendant increase in morbidity. Overall survival statistics in Stage I disease reveal that surgery performed as primary treatment to a selected (i.e., non-obese, younger, vigorous) patient population has produced survival statistics comparable to those resulting from good radiation applied to a nonselected population. Although surgery is appropriate in certain selected cases, radiation remains the treatment of choice in most patients and is the most frequently employed modality of therapy. Whichever method of treatment is employed, it is essential that it be administered by highly trained, experienced personnel since subsequent salvage following initial treatment failure is rarely possible.

With Stage II, III and IV carcinomas, treatment is essentially limited to radiation. This will consist of a varying combination of vaginal and intrauterine radiation (usually with Radium 226 or Cesium 137) and supervoltage external radiation. The use of orthovoltage radiation as primary curative treatment can no longer be condoned. Carcinoma of the cervical stump is managed similarly, stage for stage, as carcinoma in the intact uterus.

Results of Radiation Therapy

Radiation is potentially curative even with locally extensive disease, although the extent does influence prognosis markedly. Results from the M. D. Anderson Hospital, Houston, Texas, are representative (Table I).³

A clinical tumor-free survival incidence five years post-treatment is a satisfactory measurement of treatment performance, since few recurrences or tumor-related problems occur after this interval.

Complications of Radiation Therapy

Morbidity resulting from radiation can be minimized by its appropriate application. However, since aggressive treatment is designed to administer doses that represent maximum normal tissue tolerance, some morbidity is inevitable.

TABLE 1: Results of radiation therapy (corrected for intercurrent deaths by Berkson-Gage method) in carcinoma of the cervix, M.D. Anderson Hospital, 1964

Stage	Number Treated	% 5-year Survival
		Squamous Carcinoma, Uterus Intact
I (all treated)	271	90.3 ± 1.8
IIA (7 not treated)	340	81.1 ± 2.1
IIB (7 not treated)	307	63.3 ± 2.8
II (total) (14 not treated)	647	72.6 ± 1.8
III (55 not treated)	615	43.6 ± 2.0
IV (115 not treated)	71	13.4 ± 11.1
Total All Stages (184 not treated)	1604	61.8 ± 1.2
		Cancer of Cervical Stump (including 7 adenocarcinomas)
All Stages (13 not treated)	145	68.8 ± 3.9

Acutely, this consists of problems including rectal tenesmus from rectal irritation, and dysuria and frequency from bladder irritation. Significant skin reactions are infrequent with supervoltage radiation. These effects are self-limiting and usually resolve shortly following completion of radiation.

Late sequelae result from vascular impairment and include primarily damage to rectum and bladder. These may first appear six months to several years post-radiation and may include radiation proctitis with bleeding or rectal ulceration. These changes usually heal but occasionally a diverting colostomy is necessary.

Late bladder changes usually manifested by bleeding may occur. Ureteral obstruction occurs only rarely in response to radiation and almost always reflects recurrent tumor.

Rectovaginal-vesicovaginal fistulae are infrequent sequelae to good radiation therapy and are usually secondary to uncontrolled tumor.

Fibrotic changes are common in the uterine structures, although these are usually asymptomatic. Occasionally perirectal and/or segmental small bowel fibrosis may lead to stricturing. Rarely is there sufficient fibrosis of the bladder to reduce bladder volume significantly.

The incidence of complications is related to the extent of disease and to radiation dosage. Locally extensive disease is often treated more aggressively to assure optimum chance for local control; at the same time, however, locally extensive tumor seems to render the normal tissues more susceptible to late radiation, as does retreatment following a previous course of radiation.

Case Review

This patient was treated in 1952 with a full course of radiation for Stage I carcinoma of the cervical stump. She did well for 20 years before she developed hip pain and leg weakness, and the presence of locally rather extensive squamous cell carcinoma was again documented. In view of the 20-year interval, this may have represented an entirely new focus of malignant degeneration rather than persistence of her lesion, but there is no way of making this distinction. This recurrent tumor was judged not to be amenable to surgery since it was palpable out to the pelvic wall. Although a second course of radiation is rarely curative in view of the limited doses that can be administered following a previous full course of radiation, it is often effective in providing temporary tumor control with palliation of symptoms for varying periods of time.

From March 9, 1972, to April 19, 1972, an additional 5040 rads was administered to the pelvis using Cobalt-60. Retreatment objectives were achieved: the patient's tumor was observed to regress in size and she observed relief of her hip pain.

The complications she is manifesting now are not surprising in view of the two courses of radiation she has received and the length of time she has survived following the second course of treatment. The fistulae formation may also be at least partly the result of uncontrolled tumor and might have occurred spontaneously. These complications have been treated quite appropriately with supportive and palliative care as already described. Such radiation and tumor-related changes can rarely be dealt with surgically, and generally it is advisable to keep manipulation of the involved tissues to a minimum. It is our opinion that ureteral diversion for obstruction is rarely appropriate, while bowel obstruction must be relieved. Diversion of the urinary or fecal stream in the presence of fistulization is often very helpful in improving the patient's comfort and in maintaining the patient's functional status.

Dr. Cole: Reva Twersky, our social worker in the Family Medical Center, was intimately involved in the care of this patient. She will now present the social service referral.

Ms. Twersky: I first met the patient in the hospital on December 6, 1973, when Dr. Gloyd referred her to me. He was concerned about discharge planning for her. My goals were to help this lady control her own destiny, keep her sense of dignity and maintain her independence as long as possible. I recognized that she had managed quite well, and I re-

viewed the kinds of supports she already had. Her apartment manager, whom she had known for many years, checked on her twice daily. This was most reassuring to her. The apartment manager would bring in her mail, get her cereal ready for her in the morning, and come back later to straighten up the apartment. The patient had also developed a close relationship with Elaine Jorgenson, the visiting nurse, whom she was seeing once a week at that time. She also had a home health aide three times a week. The aide assisted her with bathing, cleaning the apartment, grocery shopping, and some food preparation. Two drivers from the American Cancer Society brought her to her medical appointments.

I saw the patient when she was readmitted in January, 1974, and again in March. In between, I saw her on clinic visits, and we had many telephone conversations. Most of the telephoning concerned planning for her older sister. Although limited to few physical activities during the last few years, the patient was very active on the telephone.

After her recent admission, close nursing care of the type provided in a nursing home became necessary. Dr. Gloyd and I visit there regularly and the patient has recovered sufficiently now so that she once again attends to her personal appearance carefully, scheduling regular hairdresser appointments and applying make-up daily.

Dr. Cole: I have asked Dr. Richard Baker of our department to comment on this patient's coping style and general response to her illness.

Dr. Richard M. Baker (*Assistant Professor of Family Medicine*): It seems to me that this lady with few personal support resources came, at age 79, into a very serious and complex life-threatening illness. When problems arise and there are not enough things available to maintain a real drive, a will, and an attachment, this predisposes to the "Given-up Giving-up complex."⁴ In this situation people may react by feeling that there is simply no more they can do. But when someone gives up, it makes it more difficult to handle the extant disease. The literature⁵ indicates that it becomes more probable that such a patient will develop a new disease or some other complication, and I would conjecture that it probably makes death more likely. In this case I believe that the medical care system became an important resource to the patient and perhaps a lifeline in a real sense, tying her to something that she saw as supportive and preventing an emotional affectual reaction to an adverse situation of the kind I just described. She clearly entered the situation with good social skills, which is probably important in terms of what she has done in taking care of others and how she has been able to relate to Reva and other people. I think the past history of cancer may also have helped her. Twenty years ago she had cancer and recovered, and we might have predicted by her past experience that she was not a person to give up easily. But I think that the relationship she developed with the staff of the Family Medical

Center may well have been a very important factor for her.

Dr. Cole: Thank you very much. Your comments give us much food for thought and potential research.

Dr. Warren Chapman (*Professor of Urology*): I would like to comment and encourage the kind of medical support this patient has received in the Family Medical Center and point out that this support is founded on the best knowledge available about her medical situation. It is important that the physician either know what he is dealing with or that he seek appropriate consultation when he recognizes problems with which he needs help. It seems to me that this is precisely what has been done in this case.

Dr. Cole: Thank you all for your comments and contributions to the discussion today. We have reviewed various aspects of a serious medical condition in this elderly lady. She also has other complicating organ system diseases. We have seen evidence of specific psychosocial problems faced by elderly patients — loss of financial independence, a scattered family and the necessity of leaving familiar surroundings. These problems must be identified and taken into account in the management of the patient's course by the physician.

We have seen also the family physician at the pivotal point of unifying and coordinating this patient's care, using appropriate consultants for the management of medical problems, enlisting the support of other health professionals and performing essential medical treatment himself. In this case, he managed office and hospital transfusions, prescribed cardiac medications, managed intestinal obstruction leading to surgical intervention, and most recently is managing the patient's colostomy.

Equally important, the attitude of "care" as opposed to "cure" is a thread throughout the patient's course. The goal is to optimize the patient's quality of life, and specifically to help support her emotionally so that she can maintain as much independence as possible. The question raised by Dr. Baker concerning the extent to which psychosocial supportive care has had an impact on the actual course of the biologic events is provocative and difficult to assess at this point. It is impressive that this remarkable lady has been able to remain cheerful, show concern for others, and maintain pride in her appearance and a will to live despite the obvious ravages of her medical problems.

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