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CARCINOMA OF THE UTERINE CERVIX

Results of treatment in 2 248 cases

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Carcinoma of the uterine cervix is the second most frequent malignant neoplasm in Cuban women, with an average annual crude incidence rate of 16.1 per 100 000 inhabitants (REGISTRO NACIONAL DEL CÁNCER 1975).

Irradiation has mainly been the method used, with a combination of intracavitary and external irradiation. Surgical treatment is used in patients with carcinoma in situ or in Stage I. With increased knowledge of the mode of action of ionizing radiation, and an improved technique, it has been possible to obtain higher survival rates during the past decades.

The purpose of this communication is to report the results obtained with irradiation in a large group of patients with cervical carcinoma.

Material and Methods

In 3 oncologic centers, 2 248 patients were treated from 1966 through 1972: 1 280 (56.9 %) at the Instituto de Oncología y Radiobiología, Havana City, 803 (35.8 %) at the Hospital Oncológico, Santiago de Cuba, and 165 (7.3 %) at the Hospital Oncológico, Camagüey. The patients were classified in clinical stages according to TNM.

As in the Manchester School, the concept of point A (paracervical triangle) and point B (parametrium), the T-shaped arrangement of radioactive sources in tandem and colpostats and external parametrial irradiation were used.

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Table 1

Carcinoma of the uterine cervix, 1966 to 1972. Five-year survival rates related to clinical stages

Stage	Survival	
	No.	Per cent
I	381	81.2
II	682	55.6
III	146	35.8
IV	18	12.4
Total	1 227	54.6

Table 2

Carcinoma of the uterine cervix, 1966 to 1972. Five-year survival rates related to tumour type

Type	Survival	
	No.	Per cent
Squamous cell carcinoma with moderate differentiation	541	54.3
Squamous cell carcinoma with high differentiation	327	59.8
Undifferentiated carcinoma	274	49.2
Adenocarcinoma	80	55.9
Papillary carcinoma	5	71.4
Total	1 227	54.6

In Stages I and II, intracavitary radium applications with 7 140 mgh as the mean dose, in two applications of 51 hours each with an interval of 7 to 10 days, was followed by external irradiation of the parametrial region with ^{60}Co in order to obtain a dose of 60 Gy at point B. When it was not possible, technically, to use intracavitary radium, due to narrowing of the cervical canal, bulky lesions, insufficient space in the vault, or other situations with distortion of the pelvic geometry, the treatment was started with external irradiation. Later on, if the lesion was sufficiently reduced after 20 Gy, the radium sources were applied. The external irradiation of point B was then continued. With these combinations, a minimum dose of 75 Gy was given to point A, and 60 Gy to point B.

In some very fat patients, Stages I and II, in whom the depth dose in the parametrium was insufficient, only intracavitary application of radium was used, with a mean dose between 8 000 and 10 000 mgh. If the cervix could not be penetrated, only external irradiation with ^{60}Co was given, with 60 Gy as minimum dose.

Table 3

Carcinoma of the uterine cervix, 1966 to 1972. Five-year survival rates related to age group

Age group	Survival	
	No.	Per cent
20–30	24	47.1
31–40	180	59.6
41–50	331	55.8
51–60	393	52.7
61–70	230	56.3
71–80	55	50.0
<80	14	37.9
Total	1 227	54.6

Table 4

Carcinoma of the uterine cervix, 1966 to 1972. Five-year survival rates related to treatment

Irradiation	Survival	
	No.	Per cent
Intracavitary + external	678	61.5
External + intracavitary + external	347	54.9
External	97	31.9
Intracavitary	83	50.9
External + intracavitary	22	46.8
Total	1 227	54.6

Results

The series consisted of 469 patients (20.9 %) in Stage I, 1 226 (54.5 %) in Stage II, 408 (18.1 %) in Stage III and 154 (6.5 %) in Stage IV. The 5-year survival rates by stage appear in Table 1.

Squamous cell carcinoma with moderate differentiation was the most frequent type in this series, only 143 patients (6.3 %) had adenocarcinoma. The survival related to tumour type is given in Table 2. The survival rate was highest in the age group 31 to 40 years (Table 3). The most frequent treatment schedule was radium application combined with external irradiation with ^{60}Co. The results according to treatment method appear in Table 4.

The most frequent complication was radiation proctitis, confirmed by rectoscopy

(15.5 % of all patients). However, fistulas occurred in only 36 patients (1.6 %). A total of 1 021 patients died. Of these, 435 (42.6 %) died with a remaining tumour in the uterus, 148 (14.5 %) with metastases, and 438 (42.9 %) without the exact cause of death being detected.

Discussion

Carcinoma of the uterine cervix is of great importance in Cuba, because of the high incidence and the possibility of reducing the mortality rate by the Preclinic Detection Program (CARRERAS 1974).

Of the present patients, 75.5 per cent were in Stages I and II, in which there is a high survival rate, and where treatment must be radical.

The ideal method for invasive tumours appears to be intracavitary radiation therapy followed by external irradiation of the parametrium. Treatment failures are often due to difficulties in placing the radium, because of bulky tumours, or extensive infiltration in the parametrium, or other clinical situations with distortion of the normal anatomy and geometry of the pelvis (SCHWARZ 1969). With low dose regions in and around the cervix, failure to control the central disease can be anticipated, and it is therefore important to establish the optimum arrangement for every individual patient and decide when it is necessary to start with external irradiation before the intracavitary irradiation.

In the present series, the best survival was obtained in the age groups 31 to 40 and 61 to 70 years. Undifferentiated carcinoma had the worst prognosis, while adenocarcinoma had a survival similar to squamous cell carcinoma.

The most utilized method of treatment was intracavitary radium application combined with external irradiation with ^{60}Co. This method gave the highest survival rate. In those patients in whom external irradiation alone was used the survival rate was only half as good. This difference can at least in part be explained by the fact that in the patients who received only external irradiation the disease was more advanced. Another unfavourable factor was the less optimum dose distribution obtained in these cases.

The 5-year survival rates are comparable to those reported from other departments (FLETCHER 1971, ROSSEAU et coll. 1972, EINHORN 1975, JOHNSSON 1976, ALERT & CARRERAS 1977, MARCIAL 1977).

Curative treatment of malignant tumours always implies a risk of complications from organs in their vicinity. The most frequent complication in the present series was radiation proctitis, but the rate of fistula was only 1.6 per cent, close to the figures usually found in the literature (BORONOW & RUTLEDGE 1971, FLETCHER, MICKAL et coll. 1972, EINHORN, JOHNSSON).

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SUMMARY

Data on the survival of 2 248 patients with cervical carcinoma, treated between 1966 and 1972 at 3 oncologic centers in Cuba, are presented. Intracavitary radium application combined with external ^{60}Co irradiation was the main treatment method. The most frequent complication was radiation proctitis, but fistulas occurred only in 1.6 per cent.

ZUSAMMENFASSUNG

Die Ergebnisse des Überlebens von 2 248 Patienten mit Cervix-Karzinom, die während 1966 bis 1972 in 3 onkologischen Zentren in Cuba behandelt worden waren, werden gegeben. Die intrakavitäre Radium-Applikation kombiniert mit externer ^{60}Co Bestrahlung war die hauptsächliche Behandlungsmethode. Die häufigste Komplikation war Strahlenproktitis, Fisteln traten jedoch nur in 1,6 Prozent auf.

RÉSUMÉ

Les auteurs présentent des données sur la survie de 2 248 malades atteintes de cancer du col de l'utérus traitées de 1966 à 1972 dans trois centres de cancérologie à Cuba. La principale méthode de traitement a été l'application intra-cavitaire de radium associée avec une irradiation externe par le ^{60}Co. La complication la plus fréquente a été une proctite due aux radiations mais il n'y a eu des fistules que dans 1,6 pour-cent des cas seulement.

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