

TREATMENT OF STAGE III CANCER CERVIX

by

T. B. L. JAISWAL*

PREM NARAIN**

and

T. N. EDOLIYA***

Cancer cervix poses the highest incidence amongst the malignant diseases. The cases constitute almost 32.77% of all types of malignant disease in females attending J.K. Cancer Institute, Kanpur. The disease is curable if diagnosed early. The early case of cancer cervix, if treated adequately and timely can be salvaged in the majority of cases. Majority of cases seen are in advanced stage and eventually the results are poor.

The present communication deals the treatment of Stage III carcinoma cervix at J.K. Cancer Institute, Kanpur from Jan. 1970 to Dec. 1974.

The aim of this presentation is to study the different modalities of treatment. The cases were followed months to year and the results were compared with the available literature.

Material

Total 5496 cases of cancer cervix were registered, and 2665 cases were of Stage III in this studies these were further subclassified as stage III A and stage III B according to international classification.

Complete investigations of all the cases were done before the treatment, and proc-

toscopy, intravenous pyelography and X-ray chest were done in selected cases.

Due to scarcity of beds, many patients did not continue the treatment, which happened more in stage III B patients, and these patients were kept in Group E. Thus the series is of 1427 cases (Table I).

The method of treatment of Group A cases was, by telecobalt irradiation alone. Two anteroposterior fields were employed to cover the entire pelvis. A dose of 4500 Rads was given in 4 weeks.

Group B cases were treated identically as Group A followed by intracavitary cobalt insertion of 3500 Rad—to 4000 Rads to point A by the conventional Manchester technique, depending on the condition of the patient.

Group C and D cases were treated as Group A, but the dose was limited to 3000 Rads to 3500 Rads in 2 to 3 weeks. In Group D methotrexate 2.5 mg. was given daily in addition to radiation treatment during and 15 days after radiation to complete the total dose of 75 mg.

After the completion of treatment all the patients were encouraged to attend in follow up clinic regularly, yet many of them failed to turn up. They were further communicated by postage reminders.

On follow up every case was examined and if any complications were present they were noticed and recorded.

*Lecturr in Radiotherapy.

**Lecturer in Radiotherapy.

***Professor in Radiotherapy.

J. K. Cancer Institute, Kanpur.

Accepted for publication on 13-3-80.

TABLE I
Number of Cases according to Different Groups and Haemoglobin Content

Group	Stage IIIA				Total	Stage IIIB				Total	Total
	a	b	c	d		a	b	c	d		
	2-6 gm.	6-10 gm.	10-12 gm.	Above 12		2-6 gm.	6-10 gm.	10-12 gm.	Above 12		
A	—	137	173	159	469	—	31	12	10	53	522
B	—	102	164	75	341	—	35	15	7	57	398
C	—	108	—	—	108	—	65	37	—	102	210
D	—	53	—	—	53	—	151	—	—	151	204
E	257	—	—	—	257	803	171	—	—	974	1231
Total	257	400	337	234	1228	803	453	64	17	1337	2565

Observation and Discussion

The survival rates are evaluated from the follow up of stage III cases and is presented. The results of stage III A and III B are shown separately in Table II and

Table III with modalities of treatment and in connection to haemoglobin content.

Group A Method Treatment

The three and five year survival rates

TABLE II
Yearwise Survival Rate According to Haemoglobin Content and Modalities of Treatment (Stage IIIA)

Year & Haemoglobin Content	A		B		C		D	
	No. of cases	%	No. of cases	%	No. of cases	%	No. of cases	%
1st year								
b	63/137	45.99	45/102	44.11	40/108	37.03	18/53	33.94
c	109/173	63.05	101/164	61.58	—	—	—	—
d	119/159	74.21	59/75	78.66	—	—	—	—
2nd year								
b	47/137	34.30	21/102	20.58	28/108	25.92	7/53	13.20
c	97/173	56.06	69/164	42.07	—	—	—	—
d	102/159	64.15	50/75	66.66	—	—	—	—
3rd year								
b	29/137	21.16	10/102	9.80	14/108	12.92	4/53	7.54
c	85/173	49.13	55/164	33.53	—	—	—	—
d	80/159	50.30	38/75	50.66	—	—	—	—
4th year								
b	4/137	2.92	1/102	.90	—	—	—	—
c	55/173	31.79	29/164	17.67	—	—	—	—
d	50/159	31.44	21/75	28.00	—	—	—	—
5th year								
b	01/137	0.73	—	—	—	—	—	—
c	39/173	22.54	11/164	6.70	—	—	—	—
d	38/159	23.93	12/75	16.00	—	—	—	—

TABLE III

Yearwise Survival rate according to Haemoglobin Content and Modalities of Treatment
Stage IIIB

Year	A		B		C		D	
	No. of cases	%	No. of cases	%	No. of cases	%	No. of cases	%
1st Year								
b	11/31	35.48	10/35	28.57	77/165	46.66	49/151	32.45
c	6/12	50.00	8/15	53.33	26/37	70.27	—	—
d	7/10	70.00	4/7	57.14	—	—	—	—
2nd year								
b	2/31	6.42	2/35	5.71	48/165	29.09	38/151	25.16
c	5/12	41.66	4/15	26.66	15/37	40.54	—	—
d	5/10	40.00	3/7	42.86	—	—	—	—
3rd year								
b	1/31	3.21	1/35	2.85	12/165	7.27	2/151	1.32
c	1/12	8.33	2/15	13.33	15/37	40.54	—	—
d	3/10	30.00	2/7	28.57	—	—	—	—
4th year								
b	—	—	—	—	—	—	—	—
c	—	—	—	—	2/37	5.10	—	—
d	1./10	10.0	1/7	14.30	—	—	—	—
5th year								
b	—	—	—	—	—	—	—	—
c	—	—	—	—	—	—	—	—
d	1./10	10.0	—	—	—	—	—	—

in the series were 50.30 per cent and 23.93 per cent respectively in stage III A with high haemoglobin content, and 30.00 per cent and 10.00 per cent respectively in stage III B cases. Low percentage were noticed in low haemoglobin content.

The use of 2 Mev X-ray therapy was reported by Trump *et al* (1954) with some effective results, Fletcher *et al* (1971) published a large series of 130 cases stage III A and 149 cases of stage III B by the 22 Mev, Betatron unit with 7500 Rads in 7 weeks as 56 per cent and 38 per cent 5 year survival rate.

No doubt the cases were from highly selected ones but our results are in very close confirmity with the above authors as we have treated by External beam therapy by Cobalt. The low percentage in Stage III B cases were due to anaemic

condition and pelvic infection. (Trump *et al* (1954), and Wang and Chary (1964).

Group B Method Treatment

The corresponding 3 year and 5 year survival rates in the present series were 50.66 per cent and 16.00 per cent in stage III A Carcinoma and 28.57 per cent (only 3 year) in stage III B Carcinoma.

Del Regatio (1954) by whole pelvis irradiation and followed by transvaginal X-ray therapy 3000R-4000R received 5 year survival rate as 31%. Koeck *et al* (1966) using Telecobalt unit to whole pelvis (4000-5000 rad) in 4-5 week followed by small field localised dose of 3000R in 3 week by the same unit reported result of 67 per cent. Mercado and Sala (1968) by whole pelvis cobalt (5000 r) plus 3000 r transvaginal X-ray therapy

obtained 42% survival rate. Fletcher *et al* (1962) using whole pelvis 22 Mev Betatron (6000 r) followed by Manchester technique radium treatment 4000 R reported result of 56% in comparison to 44% when they used Deep X-ray instead. Marcial (1977) reported 5 year survival rate in 31.7% (a comiled report of 26 centres) by using external Megavoltage/cobalt followed by intracavitary radium. Our results are quite confirmatory with the above authors as we treated the patients by cobalt therapy. It may be possible that by using Betatron the results may improve. In cases of Stage III B the percentage is low there is decline fall after 2 year survival which may be due to pelvic infection.

Group C Method Treatment

The three year survival rates in the present series were seen 12.92% of cases of stage III A with less haemoglobin percentage while in 7.2% of cases in stage III B cases. These treatment were our trial treatment to see the prognosis. This has been observed that large doses in stage III B cases lowers the prognosis if the haemoglobin percentage is high. In our opinion such type of the cases are to be treated initially with low dosage and

later on if the general condition of the patient permits a higher dose either by external radiation or by intracavitary method to be supplemented.

Group D Method Treatment

The three year survival rates in the present series were seen in 7.54% cases in stage III A and 1.32% in stage III B. These treatment were also our investigative treatment to obtain the better result that to give the large doses which causes unavoidable complication during treatment and due to it patient does not stay for treatment. In these cases the better prognosis were seen upto two year in stage III B in comparison to stage III A. At this stage it is very difficult to say for Group C and Group D treatment as standard treatment. Our trial is still continuing.

Complications

The superiority of any modality of treatment depends not only on survival rates but also on complication early or late. All the attending patients in follow up were analysed and have been presented in Table IV.

The early complications were transient phenomenon like proctitis and general

TABLE IV
Complication following Treatment

	(Stage IIIA)				Stage IIIB			
	A	B	C	D	A	B	C	D
General	15	18	—	—	11	10	—	—
Cystitis	4	13	—	—	2	5	—	—
Early Proctitis	—	9	—	—	—	7	—	—
Fibrosis Rectum	—	3	—	—	—	5	—	—
Necrosis Rectum	—	7	—	—	—	3	—	—
Bleeding per rectum	—	2	—	—	—	3	—	—
Fibrosis Vagina	—	7	—	—	—	5	—	—
Fibrosis Parametrium	9	18	—	—	7	7	—	—
Ureteral Stricture	—	1	—	—	—	2	—	—
Stomatitis	—	—	—	5	—	—	—	—
GI disturbances	16	9	—	7	7	11	—	—

symptoms like nausea, vomiting were the most distressing features in Group A and B cases. Rectal & Vaginal complications were noticed more in Group B cases where the intracavitary treatment was adopted and ureteral stricture causing hydronephrosis were noticed in one case in stage III A and two cases in stage III B cases. This frequency of radiation complication varies and reported by others also. Aldridge (1950), Wall et al (1966), Fletcher (1971).

From this study and the foregoing discussion we can conclude that clinical stage and haemoglobin content in the blood is the most important prognostic factor in Cancer of the Cervix, but other factor such as poor general condition, poor personal hygiene, lack of medical care, pelvic infection and gravidity of the patients may also have effect on prognosis. In order to improve salvage rate in cancer of the cervix the use of external radiation and intracavitary radium in the combination has to be individualised in every case if the blood condition is good. In advanced Cancer higher doses of external irradiation are needed along-with some chemotherapeutic drug to improve survival for which the work is still continuing.

Summary

This paper is based on a comparative study of four modalities of treatment by radiotherapy alone and combined with methotrexate in advanced squamous cell carcinoma cervix.

Group A series consisting of 469 cases of stage III A and 53 cases of stage III B, were treated entirely by external cobalt beam therapy covering the entire pelvic region. Group B series consisting of 341 cases of stage III A and 57 cases of stage III B were treated by external beam therapy confined to the whole pelvis

followed by a short dose of intracavitary radiation by the Manchester technique. Group C cases consisting of 310 cases were treated in the same manner as Group A, but the doses were less in this group and Group D cases were treated as Group C and in addition oral methotrexate was given.

The salvage rates and complications with particular relevance to anaemia, local infection and complications are compared with each other. The results are discussed with recent literature.

References

1. Aldridge, C. W.: "Ureteral obstruction in cervix Carcinoma" *Am. J. Obstet. Gynec.* 1950, 60, 1272-1280.
2. Del Regato, J. A.: "Radiation therapy of Cancer of the cervix" *Act. Unio internal, Contra Cancrum.* 1954, 10, 374-380.
3. Fletcher, G. H.: "Cancer of the cervix Janeway Lecturer 1970". *Amer. Journ. Boentgen* 1971, 111, 225-242.
4. Fletcher, G. H., Rutledge, F. N. and Chau, P. M.: "Policies of treatment in Cancer of the cervix uteri". *Amer. Journ. Roentgen* 1962, 87, 6-12.
5. Fletcher, G. H.: "Supervoltage radiatotherapy for Cancers of the uterine cervix" *Brit. J. Rad.* 1962, 35, 5-17.
6. Koeck, G. P., Jacobson, L. E. and Hillisinger, W. R.: "Results of cobalt 60 rotation therapy in Carcinoma of the cervix". *Amer. Jour. Roentgen* 1966, 96, 81-91.
7. Marcial, V. A.: "Carcinoma of the cervix "Present status and future" *Cancer* 1971, 39, 945-958.
8. Mecado, R. (Jr) and Sala, J. M.: "Comparison of conventional and Supervoltage radiation in the management of Cancer of the cervix". *Radiology* 1968, 90, 967-970.
9. Trump, J. G., Cranker, J. C., Wright K. A. and Evans, W. W.: "Treatment of tumours of pelvic cavity with supervoltage radiation" *Amer. Jour. Roentgen* 1954, 72, 284-294.
10. Wall, J. A. et al: "Carcinoma of the cervix" *Am. J. Obstet. and Gynec.* 96: 57, 1966.