OSSEOUS AND PULMONARY METASTASES IN CARCINOMA CERVIX†

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The maximum load to any radiotherapy department is due to oral and cervical malignancies. Recently with the introduction of new techniques for treatment of carcinoma cervix, the prognostic results have improved with the result that more and more distant metastases are seen.

Inspite of the above mentioned facts, very few publications are available both from abroad and from India, regarding the incidence and site of the secondary deposits in bones and pulmonary area especially with no growth at the primary site. Due to the reason cited above, the present study was undertaken for 1200 cases of carcinoma cervix treated by radiotherapy from 1968 to 1974 in Jawaharlal Institute.

Material

During the present study, cases treated in the radiotherapy department from 1968 to 1974 are taken and out of 1200 cases, 27 showed distant metastases which includes 18 bone secondaries and 9 pulmonary metastases. Before starting radiotherapy, chest screening was done in all the cases but skeletal survey was done only when indicated. During follow up, chest screening was done for all cases and bone radiographs were taken when there was any doubt of secondary deposit. All the secondary deposits were proved on radiological findings alone.

Out of total 27 cases who showed distant metastases, not a single case was from Stage I, though there were fair number of cases who left the hospital without completing the treatment. Following table shows the splitting of the cases stagewise.

TABLE I

Stage I	0	0%
Stage II	11	40.7%
Stage III	12	44.5%
Stage IV	4	14.8%

Out of 27 cases 7, left during the course of treatment, out of which 3 were of Stage II and 4 of Stage III. As shown in Table I, in Stage IV, 4 cases were given only palliative treatment. Only 16 cases completed full course of planned radiotherapy. Out of total 27 cases, 18 showed bony metastases and 9 as deposits in the lungs. In bony metastases, 2 cases showed multiple secondaries and the rest of 16 cases showed solitary bony secondary deposit (Figs. 1, 2 and 3).

TABLE II

Different Sites of Secondary Deposit in the Bones

Site	No. of Cases	Percentage
Symphysis pubis	4	22%
Ischium	4	22%
Ileum	3	17%
Skull	3	17%
Lumbar spines	3	17%
Greater trochanter	1	5%

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Table II shows the preponderance of secondary deposits in the pelvic bones and the central axis of the skeleton. Pelvic bone involvement constituted 61% of total bony deposits. Out of total 3 cases showing secondary deposits in lumbar vertebra one case showed collapse with block in the myelogram. She had no gynaecological symptoms. Only after complete check up, malignancy of cervix was corroborated since she was treated 3 years previously. Rest of the 2 cases were detected during the follow up, which showed no growth at primary site.

Out of the 9 cases of pulmonary metastases, 5 showed multiple typical secondary deposits, out of which 3 showed cavitation. Rest of the 3 cases showed pleural effusion, which was haemorrhagic in nature, later proved by exfoliative cytology. One of the pulmonary metastases was a case which was treated as carcinoma cervix Stage IIA. During follow up, she showed small growth at the cervix without any involvement of the parametria. So she was considered for surgery. During routine chest X-ray there were multiple cavitating secondaries. She had no pulmonary symptoms at all. Later she developed aphasia. Carotid angiogram was planned but she left against medical advise.

Time of Appearance of Metastases

As mentioned earlier, only 1 patient initially presented with secondary deposit in the spine. But in most of the cases it varied usually from 1 month to 1 year, after the treatment. Only 2 cases, one with pulmonary deposit and one with bony secondaries, came after three years in which, there was no primary growth seen at all.

TABLE III

Secondary Deposit in Relation to Response of the Primary

Response of Primary	No. of Cases	Percentage
Residual growth	8	30%
Recurrent growth	14	52%
No growth	5	18%

The above table shows the incidence of secondary deposits in the cases either having residual growth or recurrence.

Discussion

As mentioned earlier very few figures are available in the world literature regarding the incidence of pulmonary and osseous metastases. Herniksen (1949) reported incidence of having metastases in 16.6% of 202 autopsied cases of cancer cervix. The commonest site of metastases he reported was vertebral column in 9.2%; the incidence of pulmonary metastases in 18.9% including lungs and pleura. Graham *et al* (1962) reported pulmonary metastases as 17% in the series of 200 cases followed up for 6 to 24 months. Carleson *et al* (1967) published exhaustive paper on distant metastases in carcinoma of the uterine cervix. They studied 2220 patients during the period of 15 years i.e. 1948 to 1963. They reported incidence of distant metasteses as 15.3% (340 cases). Out of 2220 cases 85 (3.8%) showed bony metastases.

This study gives idea of the incidence of pulmonary and bony metastases. We got a total of 27 cases (2.25%) showing both pulmonary and bony metastases; while Carleson *et al* (1967) reported an incidence of 9.5%. None of the above authors mentioned whether it was in recurrent, residual or no growth at the primary site. Though the cases attending our department mostly belong to Stages II and III yet the incidence of pulmonary and osseous metastases is quite low.

We had 18 cases (1.5%) showing bony metastases which is quite low in comparison to the findings of Carleson *et al* (1967) who reported 3.8%. Pulmonary metastases including lung and pleura are 9 cases (0.75%) detected which is again low in comparison to Carleson *et al* (1967) report of 5.6%. Graham *et al* (1962) reported incidence of pulmonary metastases as 17% which is quite high in

comparison to our finding. As far as clinical staging and secondary deposits are concerned, maximum cases were in stages II and III.

Conclusion

The problem which kindled the interest mostly was the discovery of pulmonary and bony secondaries with no growth at the primary site. It is advisable to take x-ray of the pelvis and lumbosacral spine whenever there is slightest doubt. Screening chest should be done in all the cases during follow-up especially in those cases where radiotherapy failed to give good response and where surgery is going to be taken as the next line of treatment.

The present study reveals the preponderance of metastases in cases which show either residual or recurrent growth or no primary growth. The incidence of secondary deposits was discovered in the later stages of disease than the earlier ones. The incidence of secondary deposits could not be correlated with the histopathology.

References

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See Figs. on Art Paper VIII