

Carcinoma of the soft palate

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Abstract

During a 10 year period 30 patients with carcinoma of the soft palate were treated. There were 22 cases in stages I and II. A curative dose of irradiation was used in 25 cases, four of whom required surgical salvage. Another five cases were treated by a combined modality of surgery and postoperative radiation. Seven cases had nodal metastases. A mean two-year disease-free survival of 83 per cent was obtained. The probability of five-year disease free survival was 65 per cent.

Introduction

Carcinoma of the oropharynx is one of the commonest cancers occurring in the Indian subcontinent. Of the four subsites in this region, that is, the tonsil-pillar area, base of tongue, soft palate and posterior pharyngeal wall, it is the former two which are most commonly involved by squamous cell carcinoma. Soft palate lesions are rare, occurring with slightly greater frequency than posterior pharyngeal wall tumours. There are few studies in the literature devoted exclusively to carcinoma of the soft palate.

The present paper describes our experience with 30 cases of malignant lesions of the soft palate treated over a 10 year period.

Materials and methods

Available records of all patients with primary carcinoma of the soft palate treated between 1979 and 1989 were tabulated and the data analysed. An attempt was made to identify the prognostic factors. Patients with a primary in the tonsil extending to the soft palate were excluded from this study. Tumours were staged according to AJC 1981 criteria.

Following a detailed physical examination, a per-oral biopsy was performed in all cases to confirm the diagnosis. The irradiation technique utilized parallel opposed lateral portals from a cobalt-60 teletherapy machine (Theratron 780). A tumour dose of 70 Gy was delivered in 35 fractions over a period of seven weeks. The spinal cord was excluded from the photon beam at 45 Gy. The posterior neck was treated by electron beam from a linear accelerator (CLINAC 20). The dose to the N₀ neck was 50 Gy over five weeks. Another 20 Gy in two weeks was boosted to the node positive area in cases with a clinically positive neck. The role of surgery was limited to wide excision for recurrences, and a radical neck dissection for neck nodes.

Five patients including three with salivary gland malignancies, underwent surgery and post-operative irradiation.

Follow-up ranged from three to 120 months, with an average of 3.5 years.

Observations

Thirty patients with carcinoma of the soft palate were treated at the All India Institute of Medical Sciences, New Delhi, between 1979 and 1989. All but two were male. Their mean age was 53.9 years. Pain on swallowing was the commonest symptom. Twenty-six patients had an early primary tumour (T₁:7, T₂:19). There were only four T₃ tumours. Six patients presented with unilateral N₁ nodal metastasis while one had bilateral nodes (N_{2a} and N₁). The remaining 23 cases had a clinically negative neck.

The overall staging is shown in Table I. There were 15 cases in stage II, while stages I and III had seven cases each. There was one case in stage IV. Two patients had a mucoepidermoid carcinoma, while one had a malignant mixed tumour; the remainder had a squamous cell carcinoma.

Twenty-five patients with squamous cell carcinoma received 70 Gy of irradiation as the sole treatment modality. Four other patients with T₂N₀ disease underwent surgical salvage for residual disease following a curative dose of irradiation. Two of them developed a nodal recurrence after two months. One patient remains disease-free after one year. The fourth case developed a regional failure after five years. Two patients with a T₂N₀ and a T₃N₀ lesion respectively had a local recurrence within two years. Nodal recurrence occurred in one case with a T₂N₁ lesion after 10 years.

Five patients underwent a combined regimen of surgery followed by radiotherapy. Two of them had a T₂N₁ and T₂N₀ mucoepidermoid carcinoma respectively. One of

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TABLE I
SHOWING STAGE-WISE DISTRIBUTION OF CASES

'T' staging of primary	Nodal status			
	N ₀	N ₁	N ₂	N ₃
T ₁	7			
T ₂	15	4		
T ₃	1	2		1

Stage I 7 cases
Stage III 7 cases

Stage II 15 cases
Stage IV 1 case

them (T₂N₁) developed a distant metastasis four years after having undergone local excision and radical neck dissection with subsequent radiotherapy. The other remained disease-free for three years before being lost to follow-up. One case with T₂N₁ squamous cell carcinoma who underwent local excision and 60 Gy of irradiation, remained well for four years before developing regional recurrence. Two patients with T₂N₀ disease (one with malignant mixed tumour and one with squamous cell carcinoma) have remained well for three and eight years respectively after excision of the palate and post-operative radiation.

Of the seven patients with nodal disease, two had a regional recurrence, one developed a distant metastasis while another had a local recurrence. There were four patients with a T₃ primary. Two of the latter developed a local recurrence.

One patient had a simultaneous second primary: a T₂N₀ epiglottic lesion, which was included in the irradiation field. Overall, disease recurred in eight patients (primary in three, nodal in four, distant metastasis in one). Four of these with loco-regional failure could be salvaged surgically. The remaining 22 patients (73.3 per cent) have remained well for varying periods. The disease-free two-year survival was 86 per cent (Table II). The disease-free survival probability curve (Kaplan Meier method) revealed a five-year disease-free probability of 65 per cent (Fig. 1).

Discussion

Soft palate carcinomas are usually epidermoid and occur almost exclusively on its anterior surface (Thawley, 1986), the posterior surface not being involved until the lesion is advanced. Frequently the lesion appears amidst a diffuse erythroleukoplakia, wherein more than one malignant lesion may be present, particularly in smokers or drinkers. A concurrent second primary was present in only one patient. Untreated, the lesion may invade the nasopharynx, tonsil or spread along the pillars to the tongue area. Advanced tumours may produce pain or trismus due to involvement of constrictor or pterygoid

TABLE II
SHOWING THERAPEUTIC MODALITY USED

Treatment modality	No. of cases treated	No. of cases disease-free at two years
Curative radiation (60 Gy)	21	19
Curative radiation and salvage surgery	4	1
Surgery followed by post-operative radiation	5	5
Total	30	25

muscles. The greater palatine canal is a potential route of cranial spread and refractory pain. Fortunately, because palatal lesions are easily visualized, they are usually discovered early. There were no T₄ lesions and only four T₃ tumours were seen in the present study.

There is no factor for tumour depth in the TNM classification. In anatomically confined locations such as the soft palate and lateral pharyngeal wall this becomes important in surgical salvage. Though the soft palate is described as having a rich lymphatic plexus (Hollinshead, 1982), carcinomas arising from it have been stated to have a nodal metastasis rate of 15 per cent (McQuarrie *et al.*, 1984) to 40 per cent (Batsakis, 1987). In this study, however, only 28 per cent (7/30) cases had a clinically positive neck. This is similar to the incidence of nodal metastases found by Fee *et al.* (1979) and by Russ *et al.* (1977) *i.e.* 23 per cent and 27 per cent respectively. 'N' staging was not found to influence disease survival in the present study (Kaplan Meier survival test) possibly due to the small number of N+ cases. The bilateral nodal metastatic rate has been stated to be significant and contralateral node involvement rate is higher with a negative ipsilateral neck (DeSanto and Thawley, 1987). Only one case out of 30 in the present series had bilateral nodes.

The anatomical limitations imposed on surgical access and the gratifying results with radiotherapy (Lindberg and Fletcher, 1978; Johnson, 1988) make it the treatment of choice for these lesions. While irradiation sterilizes sub-clinical nodal metastases, preserves normal speech and takes care of minute undiscovered foci of malignant change in a predisposed mucosal field, it eliminates the radiation option should a second primary develop subsequently, particularly since many patients with T₁ and T₂ lesions are likely to survive for prolonged periods. DeSanto and Thawley (1987) on the other hand prefer excision. This not only preserves the irradiation option for possible use later but also yields margins for histological study. However as most lesions respond to radiotherapy, and nodal disease being potentially bilateral, we prefer irradiation and reserve surgery for salvage. Obtaining safety margins in a surgical salvage for T₃ lesions is difficult, particularly posteriorly. Additionally, the functional deficit is compensated only partially.

Fletcher and Lindberg (1966) considered soft palate carcinoma to be more radiosensitive requiring lower doses of radiation as compared with lesions of the retromolar trigone-anterior faucial pillar region. Six out of 25

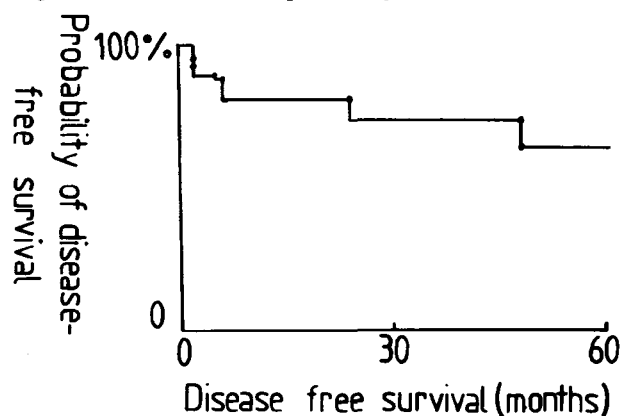


FIG. 1

Disease-free survival probability curve (Kaplan Meier test).

patients in the present study had residual or locally recurrent disease within two years of 70 Gy of radiation. Further data however are required to confirm the radiocurability of these tumours.

Management of the neck is more controversial. While DeSanto and Thawley (1987) do not treat a clinically negative neck in the presence of small lesions, we prefer to irradiate the neck in all cases. This is because the incidence of occult metastases has been reported to be as high as 25 to 30 per cent (Johnson, 1988) and because a long-term follow-up can be a problem in the Indian context for socio-economic reasons. Neck dissection was required for only one case in this study. Eighteen patients (72 per cent) have remained disease-free after a mean follow-up of 3.5 years.

Squamous cell carcinoma of the soft palate thus need not be a debilitating disease. Radiation, which is effective in treating T₁, T₂ most T₃ lesions and the clinically negative neck offers a good prognosis. Though primary surgery has not been found to improve prognosis (Ratzer *et al.*, 1970) it can salvage most primary or nodal failures.

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