

CLINICAL PRESENTATION OF BUCCAL CARCINOMA A REVIEW OF TWENTY NINE PATIENTS

N Janakarajah
R Zain

SYNOPSIS

29 patients with buccal carcinoma were reviewed for the clinical signs and symptoms. The TNM classification following the UICC categories were used for the clinical staging of the lesion. The patient's race, age, sex and habits were also noted.

Most of these patients presented with advanced lesions. The most common signs and symptoms were pain and ulcerations (62%). The histopathology of a well-differentiated squamous cell carcinoma forms a great majority of these lesions (62%).

Each of the sign and symptom is discussed in relation to other findings that had been reported.

INTRODUCTION

A multidisciplinary approach is being widely recognized as the optimum treatment for oral carcinomas. The choice of treatment namely surgery, radiation or both is dependent upon various factors such as the severity of the disease at time of presentation, metastasis to regional lymph nodes and the histopathological appearances.

Ramanathan and Lakshmi (1) has reported that the buccal mucosa is the most common site for oral carcinoma in the Malaysian Indians and Malay female. This site ranks second and third in the Malay male and Chinese female respectively. Thus, generally buccal mucosa is the most common site of cancer in Malaysians. Other studies on carcinoma in Asia has also shown that the buccal mucosa is the most common site. This is in contrast with the Western countries for example in the United States where the lip is the most common site for oral cancer (2). This disparity may be explained by the betel chewing habits (betel leaf smeared with slaked lime and chewed together with catechu and arecanut) most commonly found in the Asian countries with superimposed malnutrition, subsequent avitaminosis and poor oral hygiene (3).

Carcinoma of the buccal mucosa is supposed to be symptomless in its early stages (4). Such early stage of the disease is a rarity in the Asian countries. Patients do not seek treatment until either pain, function or esthetic demands their attention. It is thus the aim of this paper to present the various clinical appearances in patients who have come to seek treatment at a very late stage.

Department of Oral Surgery
Faculty of Dentistry
University of Malaya
Kuala Lumpur

N Janakarajah, BDS, MDS, FDSRCS
Lecturer

Department of Oral Pathology and Oral Medicine
Faculty of Dentistry
University of Malaya
Kuala Lumpur

R Zain, BDS, MS
Lecturer

MATERIALS AND METHODS

Twenty-nine patients had been seen at the University Hospital and the Dental Faculty, University of Malaya, from 1979-1981. The clinical signs and symptoms for example pain, ulcerations, swelling and other related conditions were noted. The staging of these patients were done according to the TNM classification based on the UICC categories.

RESULTS

Race

Indians form 86% of the patients in our series, as out of the twenty-nine cases, only three were Malays, one Chinese and the rest were Indians.

Age

The peak age incidence is 51-70 years. The average age is 59 years, the youngest in our series is twenty-nine and the oldest being 82 years. The mean age for males is 60 years and for females is 57 years.

Sex

There were fifteen males and fourteen females forming a male:female ratio of 1.1:1.

Habits

10 patients (35%) gave a history of betel nut chewing in varying amounts for many years. 13 patients (45%) had betel chewing as well as cigarette smoking habits. The rest of the patients (20%) had no particular habits that may have been a predisposing factor (Table 1).

TABLE 1: HABITS IN PATIENTS WITH BUCCAL CARCINOMA.

| HABITS | No. of Patients | % |
|---------------------------------|-----------------|------|
| Betel nut chewing | 10 | 35 |
| No habit | 6 | 20 |
| Cigarette and betel nut chewing | 13 | 45 |
| | 29 | 100% |

Signs and Symptoms

18 patients (62%) experienced pain and ulceration in that region. Swelling and bad odour were present in two patients (7%) while 7 patients presented with recurrences. In 2 patients the lesions were symptomless and were only incidental findings (Table 2).

TABLE 2: SIGNS AND SYMPTOMS IN PATIENTS WITH BUCCAL CARCINOMA.

| HABITS | No. of Patients | % |
|---------------------|-----------------|------|
| Pain and ulceration | 18 | 62 |
| Swelling | 2 | 7 |
| Recurrence | 7 | 24 |
| Incidental findings | 2 | 7 |
| | 29 | 100% |

Skin Involvement

The skin was not involved by the disease in 16 patients (55%). The other 13 patients (45%) had skin involvements. Many of them had extensive ulceration of the skin resulting in orocutaneous fistula (Figure 1).

FIGURE 1: Massive Ulceration of Buccal mucosa leading to an orocutaneous fistula. The carcinoma has spread to the labial mucosa causing an orocutaneous fistula in the chin region.



Nodal Involvement

Table 3 showed the TNM staging of these patients. 13 patients (45%) had no nodal involvement while an equal number of patients had enlarged and mobile nodes. 3 patients (10%) had enlarged and fixed nodes. The nodes involved are mainly homolateral with no contralateral involvement. The submandibular nodes were usually affected with only two cases having deep cervical lymph nodes involvement.

TABLE 3: TNM STAGING OF PATIENTS WITH BUCCAL CARCINOMA.

| | T1 | T2 | T3 | Total |
|-------|----|----|----|----------|
| N0 | 3 | 4 | 6 | 13 (45%) |
| N1 | 1 | 4 | 8 | 13 (45%) |
| N2 | - | - | - | - |
| N3 | - | - | 3 | 3 (10%) |
| Total | 4 | 8 | 17 | 29 |

Limitations of mouth opening

In 14 patients (48%) where carcinoma extended towards the posterior part of the buccal mucosa, associated difficulty in opening the mouth were experienced.

Mandibular involvement

The buccal carcinoma had invaded the mandible causing gross destruction in 3 patients (Figure 2;) 10% of which 2 had pathological fractures. 11 patients (38%) had, mild involvement of the mandible. The mandible was not affected in the rest of the patients (Table 4).

FIGURE 2: Marked bone loss in the mandible due to the invasion of buccal carcinoma.

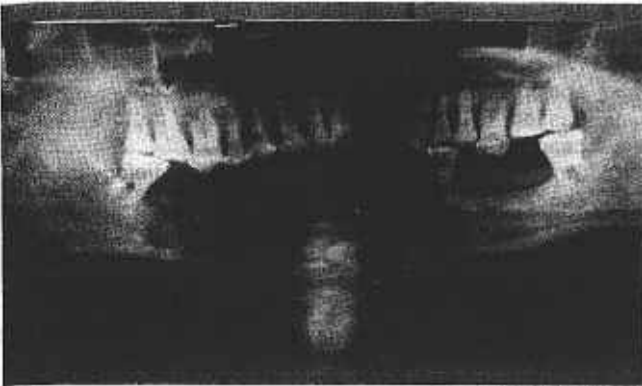


TABLE 4: MANDIBULAR INVOLVEMENTS OF BUCCAL CARCINOMA.

| Mandibular Involvement | No. of Patients | % |
|------------------------|-----------------|------|
| Unaffected | 15 | 52 |
| Mild | 11 | 38 |
| Grossly destructive | 3 | 10 |
| | 29 | 100% |

Metastasis

Only one patient had distant metastasis. This patient also had the tumour measuring more than 4 cm in its greatest dimension with enlarged and fixed nodes (T3 N3 M1).

General

The oral hygiene in these patients was very poor with grossly carious or broken down septic roots. These patients also had very poor periodontal status and their general health were debilitated.

Histopathology

The incisional biopsy of all the lesion were shown to be squamous cell carcinoma. 18 patients (62%) had well-differentiated squamous cell carcinoma, 7 patients (24%) had moderately well-differentiated carcinoma. All the 4 patients (14%) who had poorly-differentiated squamous cell carcinoma had regional nodes involvement. The above results were tabulated in Table 5.

TABLE 5: HISTOPATHOLOGY OF BUCCAL CARCINOMA.

| Histopathology | No. of Patients | % |
|-------------------------------|-----------------|------|
| Well differentiated SCC | 18 | 62 |
| Moderately differentiated SCC | 7 | 24 |
| Poorly differentiated SCC | 4 | 14 |
| | 29 | 100% |

DISCUSSION

It has been widely established that buccal carcinoma is most prevalent in the Indians. This is further supported in our findings where 86% of the patients were Indians. The mean ages of male and female patients in our series (60 years and 57 years respectively) were approximately fourteen years earlier than the figures quoted by Easson and Russel (5), Harold (6), Binnie et al (7) and Waterhouse (8). The male to female ratio had remained 1.3:1 throughout the world from 1960-1975 (5, 6, 7, 8, 9). Each of these authors had commented that the ratio has fallen from 10:1 in the 1930's to the present figure which is approaching unity. Such ratio was also obtained in our series (1.1:1). Binnie et al (7) and Smith (10) suggested that this was due to a fall in the incidence in males whereas the incidence in females had remained constant. Farr and Arthur (11), however, proposed that the incidence in females may in fact be increasing. This may be a reasonable explanation since many women were picking up the habits that used to be only reserved for men for example cigarette smoking.

Most clinicians have described and agreed that there are three distinctive clinical pathological types of buccal carcinoma:

- i) exophytic
- ii) ulceroinfiltrative and
- iii) verrucous

The verrucous type is very distinctive and least common in the buccal mucosa. Such pattern was not present in our series. Determinations of the exophytic patterns were not possible in our materials as the lesions were all presented at a very late stage. The ulceroinfiltrative pattern of buccal carcinoma was supposed to involve the buccinator muscle early and often present with deep excavating ulcers invading skin and bone (2). This would probably explain the skin involvements, limitation of mouth opening and mandibular invasion in our series. These presentations may be sequelae of the ulceroinfiltrative type of buccal carcinoma. The surgical management of these patients have been discussed in another article (12).

There was an association between the histological grading of these lesions and the lymph node involvement in our series. The four poorly differentiated squamous cell carcinoma all had lymph node involvement and three of them were fixed on the homolateral sides. This further supports the long held view that more anaplastic tumours carry a worse prognosis. Such finding had been confirmed for intraoral carcinoma in several studies (13, 14, 15). Johnson (16) stressed that the features such as loss of epithelial stratification, presence of individual tumour cells in the stroma and a poorly developed immune inflammatory response within and around the tumour were significantly correlated with poor prognosis.

CONCLUSION

With the multidisciplinary approach to treat oral carcinoma by oral and maxillo-facial surgeons, radio-therapist, general surgeons and pathologists, the prognosis of buccal carcinoma patients should be improved. Nevertheless, the prognosis of buccal car-

cinoma is also dependent on many other factors such as the histological grading and stage of the disease. In most of the Asian countries, patients would present themselves with advanced lesions making an ideal treatment impossible. New treatment regimes are emerging such as radical preoperative irradiation for carcinoma of the maxillary antrum followed by maxillectomy, preoperative irradiation of the neck prior to radical neck dissection or combination with chemotherapy for which early results are encouraging (17). The outcome of such regimes is still to be investigated in terms of its success or failure.

REFERENCES

1. Ramanathan K, Lakshmi S: Oral Carcinoma in Peninsular Malaysia: Racial variations in the Indians, Malays, Chinese and Caucasians. In: Takeshi Hirayama, ed. Gunn Monograph on Cancer Research; Cancer in Asia. Tokyo: University Park Press, 1976: 27-36.
2. Batsakis JG: Tumors of the head and neck. 2nd edition. Baltimore: Williams & Wilkins, 1979: 146-76.
3. Paymaster JC: Cancer of the buccal mucosa. *Cancer* 1956; 9: 431-5.
4. O'Brien PH, Catlin D: Cancer of the cheek (mucosa). *Cancer* 1965; 18: 1302-98.
5. Easson EC, Russell MH: The curability of cancer in various sites. Baltimore: Williams and Wilkins, 1968.
6. Harold CC: Management of cancer of the floor of the mouth. *Amer J Surg* 1971; 122: 487-92.
7. Binie WH, Cawson RA, Hill GB, Soaper AE: Oral cancer in England and Wales - A national study of morbidity, mortality, curability and related factors. London: HMSO, 1972.
8. Waterhouse JAH: Cancer Handbook of epidemiology and prognosis. Edinburgh: Livingstone, 1974.
9. Easson EC, Palmer MK: Prognostic factors in oral cancer. *Clin Oncology* 1976; 2: 191-6.
10. Smith CJ: Global epidemiology and etiology of oral cancer. *Intern Den J* 1973; 23: 82-6.
11. Farr HW, Arthur K: Epidermoid carcinoma of the mouth and pharynx, 1960-1964. *J Laryng* 1972; 86: 243-51.
12. Krishnan MMS, Janakarajah N: Primary excision and immediate reconstruction for advanced cancer of the cheek. *Med J Malaysia* 1983; 38: 43-6.
13. Eneroth CM, Moberger C: Histological grading of squamous cell carcinoma of the palate. *Acta otolaryng (Stockh)* 1973; 75: 293-8.
14. Noone RB, Bonner H, Raymond S, Brown AS, Graham WP, Lehr HB: Lymph node metastasis in oral carcinoma. *Plast Reconstr Surg* 1974; 53: 158-66.
15. Willen R, Nathanson A, Moberger G, Anneroth, G: Squamous cell carcinoma of the gingiva, histological classification and grading of malignancy. *Acta otolaryng (Stockh)* 1975; 79: 146-52.
16. Johnson NW: The role of histopathology in diagnosis and prognosis of oral squamous cell carcinoma. *Proc Roy Soc Med* 1974; 69: 740-8.
17. Langdon JD, Rapidis AD, Harvey PW, Patel MF: STNMP - A new classification for oral cancer. *Brit J Oral Surg* 1977; 15: 49-54.