

Alveolobuccal Cancer – Management Strategies during last 30 years

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Abstract

The present work on Alveolo Buccal Cancer was compiled for the past about 30 years. Factors responsible for late presentation of cases in advanced stage, the available hospital facilities for treatment type of Surgery performed and the results in the earlier years (1960s and 70s) have been compared with those in the subsequent decades till date. The recent developments in the radiation and chemotherapy with improved techniques of wide excisional surgery and same stage reconstruction of resulting defects by Myocutaneous flaps, Osteomyocutaneous flaps and free flaps utilizing Microvascular anastomosis has been highlighted. Prevention of Oral Cancer by Antitobacco Community Education Programme, recognition of pre-cancerous lesions, early diagnosis and prompt treatment is still the main stay of management.

Key words : Alveolo-buccal Cancer/Indian Oral Cancer, Earlier Surgery, Current Surgical Technique, M.C. Flaps, Free flaps with microvascular anastomosis and Laser surgery.

Introduction

Alveolar Carcinoma is mostly secondary to buccal or gingival cancer, its extension into the upper jaw is relatively uncommon. Cancer of the buccal mucosa, lower alveolus and retromolar triangle are grouped together as "Cancers of the

gingivobuccal complex". It has been described as the "Indian oral cancer" (1) and it constitutes more than 60% of all oral cancers (Annual Report : Hospital Cancer Registry TMH, Bombay 1988). The biological behaviour of G.B. Cancers is different from lesions of Ant. tongue and

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floor of mouth (2). In G.B. Cancers 13% present in stages I and II and 15-72% in stages III and IV. As against this Ant. Tongue cancer is 40% in stages I and II and 27-33% in stages III and IV. In addition the G.B. cancers have low propensity to neck metastasis and high incidence of local recurrence. First nodal station to be involved in G.B. cancers is level I L.N.S. whereas in interior tongue cancer, it is level II and II L.N.S. In G.B. cancers recurrence is predominantly at the primary site whereas in Ant. tongue cancer the recurrence is in the neck (1).

The Clinical Profile of Alveolar Buccal Carcinoma ranges from a small ulcer to a large foul smelling exophytic or infiltrating tumour. Some of the late cases present with external fungation or fixed cervical nodes and trismus. Other features include excessive salivation, difficulty in speech and swallowing, anaemia, loss of weight, bleeding from the growth and chest infection. Most of our patients came from the tobacco eating belt of Uttar Pradesh eg. Mainpuri, Etah, Etawah and Mathura where tobacco is consumed in different ways.

I. Past Glimpses of Alveolar Buccal Cancer

In the late 1950s and 60s, the public awareness about oral cancers was virtually non-existent, hazards of tobacco use were not clearly known/realised, the socio-economic status of the population in general was poor. Means of transport were few, awareness about mouth cancer was

poor, medical aid was scarce and specialist cancer treatment centres were few. Patients, therefore, reached the hospitals late and many of them were already in an inoperable stage. Excisional surgery was performed under primitive anaesthetic facilities. Same stage reconstructive surgery for the resulting defects was not in vogue. Radiotherapy was available in the form of deep x-ray and chemotherapy was in its infancy form. The inevitable result of these undeveloped modalities of cancer treatment coupled with late presentation of patients was high mortality and morbidity.

The data being presented pertains to years late 1950s and 1960s of the cases that attended the Medical College Hospital, Agra. Dr. S.P. Srivastava was pioneer to start operations for Oral Cancers in Northern India and in Uttar Pradesh in particular from the year 1948 onwards. Agra received most of the cancer cases from the tobacco eating belt of U.P. from the neighbouring towns of Mainpuri, Etawah, Etah and Mathura. Most of the patients belonged to clinical stages III and IV.

- (a) Srivastava (3) reported a series of 242 cases from Agra for the years 1949-53, out of these cases only 34 cases (17.3%) were suitable for surgery; rest were advanced inoperable cases. In the surgically treated group of patients, excision of cheek growth and alveolus along with a suprahyoid block dissection was done (Table I)

**Table I. No. of cases 242, Years 1949-53,
Cases operated 34**

S. No.	Operation	No. of cases
1.	Local cheek excision + Segmental Mandibulec.	15
2.	Local cheek excision + Hemimandibulectomy	15
3.	Cheek excision + Excision of symphysis menti and parts of both Horizontal rami.	1
4.	Cheek exision + partial excision of Alveolar Margin of Mandible.	3

(Srivastava, 1953)

In these cases primary reconstruction was not done, the remaining alveolus was also not stabilized. This resulted in deformity and functional impairment post-operatively.

The cheek defects were very ugly and hideous to look at; there were large orocutaneous fistulae with saliva dribbling out and teeth of the upper alveolus exposed, sometime the personal identity of the patients was changed; some of these patients became social outcastes, these patients were only able to take semisolid sloppy food only. Most of these patients did not return for delayed reconstruction.

In the surgically treated 34 patients, morbidity was high as in Table - II.

- (b) A decade later, anaesthetic techniques improved and the surgical expertise became better leading to improved results.

**Table II. Morbidity Figures,
34 operaed cases**

S. No.	Morbidity	% of cases
1.	Deformity and Functional Impairment	7.5
2.	Recurrence (within 2-8 months)	29.4
3.	No Recurrence (upto 3 yrs.)	29.4
4.	Lost to follow up	Rest

(Srivastava, 1953)

Srivastava (4) reported another series from Agra of 85 cases for the year 1957-65; out of these 85 cases, 56 underwent surgery. The results are summarized in Table III.

**Table III. Years 1957-65,
No. of cases 85, Operated 56**

S. No.	Operation Procedure	No. of cases
1.	Excision cheek growth+ Hemimand+Suprahyodi block	45
2.	Excision cheek growth + Hemimandibulectomy+RND	6
3.	Excision of cheek growth+ Maxillectomy	5

The survival of patients in this series was longer as compared to the earlier 1949-53 series (Table IV).

II. Alveolo Buccal Cancer - Present Trends

Today, opinion has developed in favour of a single stage operation involving local wide excision, cervical block

**Table IV. Period of study 1957-65,
No. of operated cases 56**

S. No.	Survival	No. of cases
1.	Recurrence free survival for 8 years.	3
2.	Recurrence free survival for 9 years.	2
3.	Recurrence free survival for 5 years.	4
4.	Recurrence free survival for 4 years.	9
5.	Recurrence within 1 year.	10
6.	Early recurrence within 6 months.	6

dissection and immediate same stage reconstruction of the resulting defects. The rationale behind this mode of treatment is that carcinoma of buccal mucosa, jaw and gum remains confined to the suprahyoid and upper deep cervical lymph nodes for a considerable duration. The involvement of lower deep cervical lymph nodes is not common and occurs very late. Distant metastases are likewise rare. Hence a ruthless wide local excision with reconstruction gives the best chance of cure in these cases. We do not routinely do a complete Crile's block dissection in every case today because from our previous study (5) we are convinced that in cases of cancer cheek and mandible, lymph nodes in the lower half of neck are seldom involved. If the lymph nodes in the S.M. region are enlarged and mobile then only suprahyoid block is done with surgery of the primary. If the upper deep cervical lymph nodes are clinically enlarged and

they appear significant of being metastatic during operation, then a frozen section histology is asked for; if these lymph nodes turn out to be metastatic then only a radical neck dissection is done otherwise a modified block dissection (upper deep cervical block) is done (5).

(c) A series of 95 cases of carcinoma cheek and jaw is presented from the Deptt. of Surgery, Medical College, Agra covering the years of 1981-88 (Table V).

**Table V. Period of study 1981-88,
No. of cases 95**

Site of lesion	No. of cases
Buccal Mucosa	38
Mandible	7
Buccal mucosa (cheek) + Mandible	53
Buccal mucosa (cheek) + Maxilla	7

Out of the cheek lesions, posteriorly located lesions (against molars) were more than anteriorly placed lesions (against canine and premolars). A few of the anteriorly placed lesions had involved the angle of mouth. Some of the posterior lesions had encroached upon the retromolar area with mild trismus (Table VI).

**Table VI.
No. of cases 95 showing Lymph node status.**

Site of Lesion	S.M. Nodes	UDC Nodes
Anterior (24)	10	Nil
Posterior (71)	71	72

In the present series of patients grade II predominance was noted (Table VII). This may be due to ICMR Anti-tobacco Community Education Programme (16).

Table VII. Grades

Grades	I	II	III	IV	Grading not done
No of cases	29	47	12	3	4

The various operative procedures done in this series of patients are shown in Table VIII.

Table VIII. Various operations done (Period of study 1981-88, No. of cases 95, requiring reconstruction 79).

S. No.	Procedure	No. of cases
1.	Local excision+Split skin grafting	16
2.	Excision+Hemimand+Suprahyoid Block dissection	3
3.	Excision+Hemimand+Suprahyoid Block+Reconstruct.	7
4.	Excision+Hemimand+Super deep cervical block+Reconstruction	60
5.	Excision+Hemimand+Hemimaxillectomy+UDC Block+Reconstruction	6
6.	Excision+Hemimand+Complete Cervical Block+Reconstruction.	3

SOH block dissection was done in 10 cases, upper deep cervical block dissection in 66 cases and complete cervical block dissection in 3. Table IX shows the status of enlarged lymph nodes in these cases.

Table IX. Indicating nodal status

Enlarged Lymph	Status			
	Clinically enlarged	Metastatic	Negative	Hyperplastic
Submandibular	10	7	2	1
Upper Deep Cervical	69	3	64	2

Reconstruction of post-excisional defects by local cutaneous and myocutaneous flaps was done. In our cases, the cutaneous flaps fared better than the myocutaneous flaps as regards the survival and immunity to infection. The myocutaneous flaps provided better cosmetic appearance. Posteriorly tongue flap is an excellent flap for covering small cheek defects; it is richly vascular and provides an ideal colour match for the excised cheek mucosa. These flaps did not develop any necrosis and were detached after 3 weeks (Table X). Frontal flaps in

Table X. Pedicle flaps used for reconstruction 1981-88, No. of cases 79

(a)	For Inner lining	
	* Frontal Flap	52
	* Cervical Flap	3
	* S.M.M.C. Flap	10
	* Trapezius Myocutaneous Flap	1
(b)	For Outer Cover	
	* D.P. Flap	31
	* Pect. Major Myocut. Flap	3
	* Lat. dorsi Myocut. Flap	4
(c)	For Both Outer and Inner Lining	
	* Bipolar Fronto-temporal Flap	10

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