Modified Surgery for Buccal Neoplasms

By G. P. Bridger (London)

Neoplasms of the buccal mucosa are becoming more rare, as are other oral tumours. A multiplicity of surgical procedures has been described to cope with the devious patterns of these neoplasms, but the success of radiotherapy in treating early lesions has further reduced the number of cases requiring surgery. Ideally, the surgery undertaken should aim at being safe, expedient and adequately ablative, with reconstruction to minimize the dysfunction and disfigurement. Extensive operations, when indicated, run the risk of partial failure, may cause loss of function and facial contour and often require further surgery. Flap raising incisions can and should be employed in selected cases. These achieve maximum sparing of cheek skin, and facilitate access and wide removal of tumour. The buccal defect is repaired with free split skin graft. This avoids the complication of intra-oral scarring and consequent limitation of mouth opening. The cosmetic effect is good.

Varieties of squamous carcinoma comprise the majority of buccal neoplasms. They tend to remain localized, but may at an early stage infiltrate adjacent structures. Martin and Pflueger (1935) noted local extension in 61 per cent. of their 99 cases at the time of admission. Such local spread may involve skin, cheek muscle, lip, upper and lower buccal sulci, then gingival margins where growth usually extends along the mucosa, with little deep erosion of bone. Invasion of the fauces with spread to the soft palate on down to the base of the tongue and backwards into the pharynx has a poor prognosis. Metastases tend to occur comparatively late (Martin and Pflueger, 1935). According to Richards and Ash (1959) 50–60 per cent. of these tumours never do metastasize and, when they do develop tend to be limited to the submental, submandibular, and upper cervical lymph glands. Jackson and New (1950) reported metastases in 25·8 per cent. of their cases. Spread to the parotid lymph nodes may occasionally occur, especially in cancers situated posteriorly (Pólya, 1926; Ward and Hendrick, 1950). In view of the low incidence of metastases routine prophylactic block dissection is not considered advantageous.

Radiotherapy offers an excellent chance of cure for small and moderately-sized carcinomas with little extension. It has the attraction of sparing the patient an operation and is less mutilating. Richards and

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Ash (1959) had a 76 per cent. 5-year survival rate for buccal carcinomas when the lesion was less than 1·5 cm. without other involvement. This fell to 52·7 per cent. for lesions larger than 1·5 cm. not involving adjacent structures, and to 34·2 per cent. and 4·5 per cent. when the lesions were far, and very far advanced. Nuttall (1943) had a 67 per cent. 5-year survival. All his patients before treatment were clinically free of metastases. Paterson (1941) using radiotherapy had a 63 per cent. and 46 per cent. 5-year survival with stage I and stage II (buccal neoplasms without nodal involvement). This fell to 18 per cent. and 0 per cent. for stage III and stage IV, when nodes were found to be involved.

Whilst radiotherapy is widely preferred, surgery offers a better chance for survival where deep infiltration, particularly into muscle or bone, or metastases are present. Also with the more advanced lesions, the side effects of irradiation such as trismus, dryness of mouth, intraoral scarring, radionecrosis and the difficulty of establishing complete tumour regressions are increased. Surgery offers the only chance when the tumour is insensitive to irradiation or when the latter has failed. Jackson and New (1950) record a 72 per cent. 5-year survival when only local extension was present and an overall survival of 51 per cent. for all their cases. O'Brien and Catlin (1965) report a 5-year survival rate of 56 per cent. for disease which is localized or with direct extension only, and 23 per cent. when metastases were present.

In borderline cases where it is difficult to define the limits of local extension and the patient is not a straight-forward candidate for either treatment it is safer to assume that surgery will afford a cure.

Apart from wide excision biopsy of a small tumour end-oral surgery is not to be recommended. The cramped field may lead to the operation being compromised and these cases are better treated with radiotherapy. When full thickness cheek is taken the defect must be closed. This is a complex problem as two epithelial surfaces are required. With a small defect primary suture, or rotation, or advancement flaps will suffice. Sizeable defects require transportation of a forehead flap, acromio-pectoral tubed pedicle flap, or a composite neck pedicle flap. Excision of the lip poses additional plastic problems. Advanced growths call for wide ablation of the primary lesion and the lymph draining areas. This is achieved by Commando type procedures, often including hemimandibulectomy and homolateral block dissection.

Flap approaches are indicated when skin and subcutaneous tissue are free from growth. The claim that surgical resection must invariably require excision of the overlying skin (Edgerton and De Vito, 1964) is not considered justified. However, there should be no conflict between the demands of excision and those of repair for the greatest danger is always the possibility of recurrence. Experiences with two flap-raising incisions are described.

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Operations

A low approach was used on a 51-year-old man who presented with a hard, painful ulcer on the left cheek. The cancer was 3 cm. in diameter, anterior to the mandibular ramus, with early invasion into the submucous tissue. The upper and lower gums were free. Seven years previously this patient had been successfully treated for lymphosarcoma of the naso-pharynx with cobalt, which precluded further radiotherapy. The incision (Fig. 1) commenced in the pre-auricular region, extended vertically,

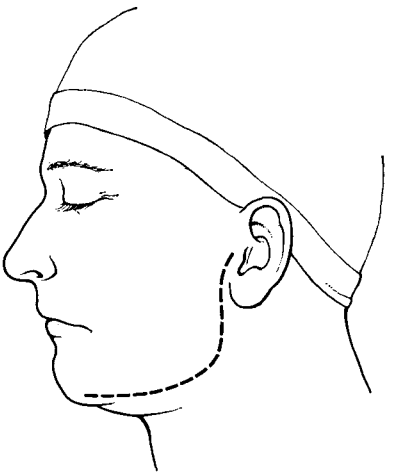


FIG. 1.
Incision for low approach.

then curved to follow the infra-mandibular line as far as the submental area. Raising of this flap permitted access to the buccal area. Dissection was just deep to the platysma and thereby avoided the mandibular branch of the facial nerve. Damage to this nerve causes permanent and noticeable drooping of the angle of the mouth. As shown in Fig. 2, the zygomatic branches of the facial nerve were exposed in the fat-laden superficial fascia, and, with the muscles to the upper lip, gently retracted from the operative field; deep to these the maxillary origin of the buccinator was exposed. The accessory lobe of the parotid gland, the parotid duct, the buccal branch of the facial nerve and underlying anterior fibres of the masseter muscle were excised. Lateral retraction of the ramus, and teasing of the buccal fat pad from between the buccinator and the insertion of the temporalis gave access to a field extending to the pterygomandibular raphe. *En bloc* removal of the growth included most of the buccinator, which was partly detached from its maxillary origin (Fig. 3) and the overlying buccopharyngeal fascia and fat. A finger within the mouth was

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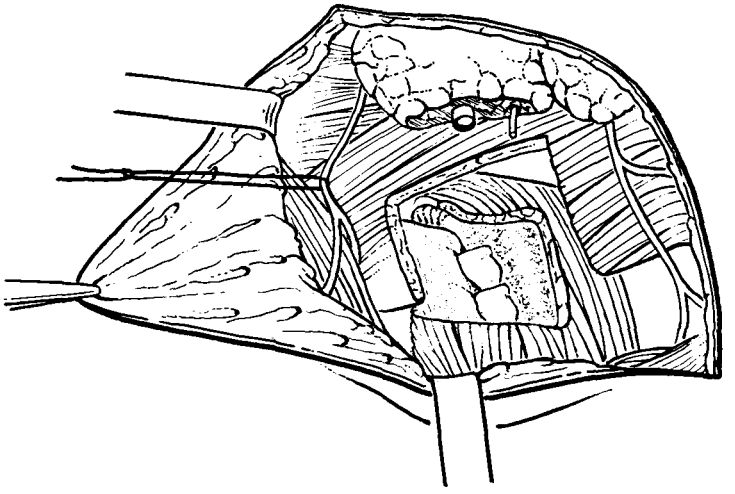


FIG. 3.
Defect following the removal of growth.

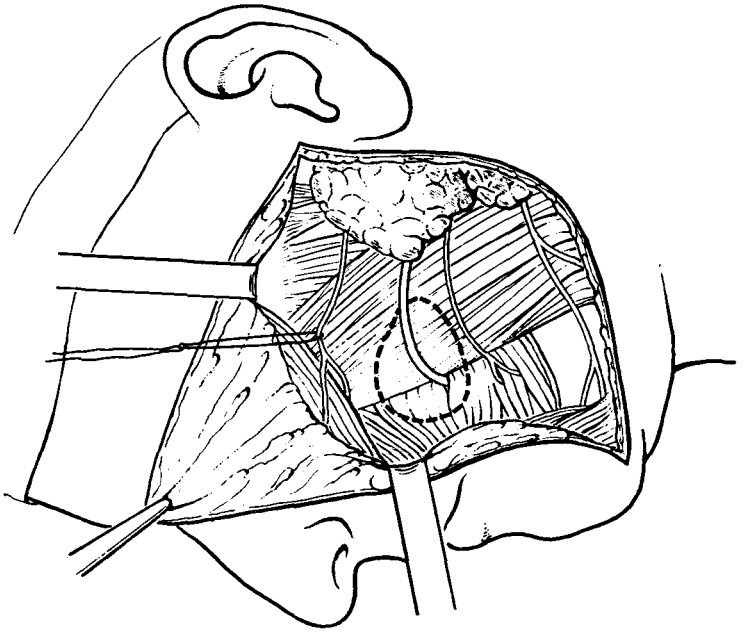


FIG. 2.
Area exposed by raising skin flaps. The buccal carcinoma is outlined.

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a guide in the initial stage, and as the removal proceeded direct vision of the more inaccessible parts was obtained. The mucosal defect was repaired with split skin compressed with gauze packing. Post-operatively the patient sloughed 50 per cent. of his skin graft and had slight marginal necrosis of his flap. His previous irradiation may reasonably be held responsible for this. He developed a small oro-cutaneous salivary fistula which caused little distress and healed quickly, but he was left with slight restriction on mouth opening. The disfigurement was slight (Fig. 4).

A high approach was used on a 65-year-old man who presented with a hard neoplasm in the upper buccal mucosa. This was 3·5 cm. in diameter

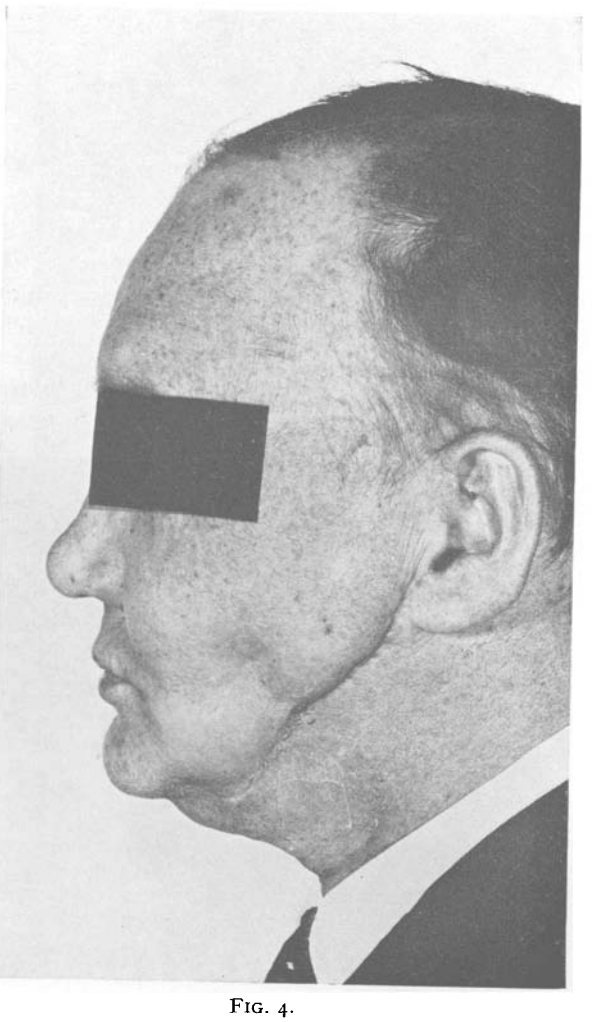


FIG. 4.
Post-operative photograph of patient.

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and involved the upper buccal sulcus with spread to the retromolar mucosa. Deep penetration of the underlying muscle had occurred. A Weber Ferguson type incision was used (Fig. 5). This begins by splitting the middle of the upper lip, and extends beneath the columella, thence around the ala and up along the border of the nose to the inner canthus, and laterally in a crease line below the infra-orbital border. A subcutaneous flap was reflected off the underlying muscles and through the labio-alveolar angle and when lifted away from the maxilla gave access to the most remote corners of the cheek. The posterior line of tumour excision extended to the tonsillar pillar and the defect was closed with free split skin compressed by opposing gauze pads (Fig. 6). The patient was allowed home in a few days. His only complication was drooping of the angle of the upper lip.

Discussion

The low approach is an extension of an operation first described by Patterson in 1937. He used an inframandibular incision for buccal carcinoma and had one recurrence in 10 cases. The operation is satisfactory for neoplasms in the central buccal mucosa and can cope with spread on to the gingiva and early erosion of the mandible. If a portion of the alveolus needs resecting the tongue is sufficiently mobile to be hitched up to the cut edge of buccal mucosa. Advantages are an off the face scar and maximum preservation of the facial nerve, as opposed to the alternative



FIG. 5.
Weber Ferguson incision.

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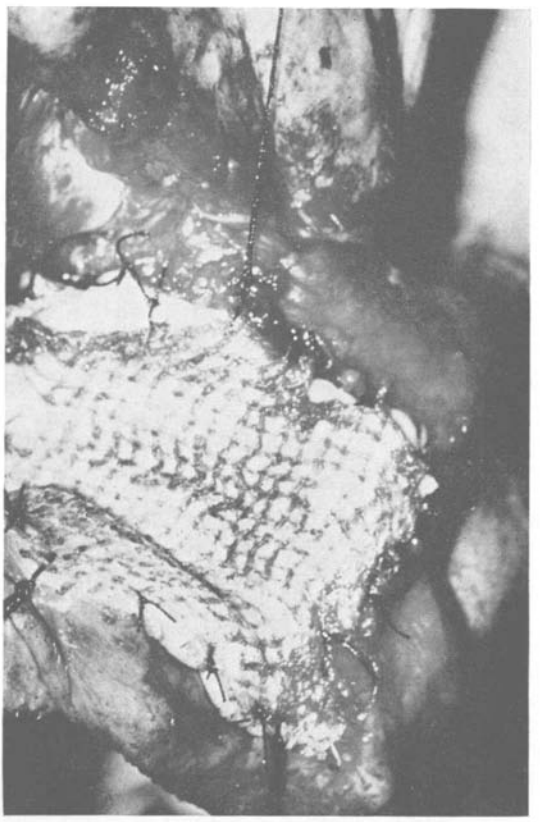


FIG. 6.
Free split skin graft closing buccal defect.

exposures using lower lip splitting incisions and transverse and vertical angular incisions described by Pólya (1926), Martin (1957), and Byars (1959). With the more posterior growths a superficial parotidectomy in continuity with the resection of growth can be performed. The parotid lymph nodes are mainly situated in the superficial lobe and such a procedure also provides greater security for the upper facial nerve fibres. Extension can be made to include cervical lymph gland block dissection if indicated. The operation is precluded by the slightest evidence of subcutaneous invasion such as deep infiltration, skin fixation, dimpling or induration.

The Weber Ferguson incision is ideal for tumours in the upper buccal cavity with or without invasion of the maxilla. The access has scope to deal with neoplasms extending to the fauces. The exposure facilitates closing the defect with split skin and the complications of oral fistula are avoided. The disadvantage is the midline scar and the infraorbital

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oedema which may follow. However, there is usually little deformity or scar. The integrity of the muscles and nerves to the upper lip cannot be safeguarded and they may have to be excised. This causes drooping of the angle of the upper lip.

The use of free split thickness skin has been established as a most satisfactory procedure for closing buccal mucosal defects where primary suture is not possible. Conley (1954) states that a complete "take" may be expected in almost every instance.

Summary

The indications for surgery in buccal neoplasms are discussed. Two surgical approaches using skin flaps are described.

Acknowledgments

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