

Case Report

Mucormycosis at pectoralis major myocutaneous flap donor site

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ABSTRACT

Background: Advanced carcinomas involving the head and neck present a major therapeutic challenge because of their poor prognosis particularly in old age irrespective of the treatment modality used.

Materials and Methods: A 71-year-old patient presented with right-sided buccal mucosal carcinoma involving the mandible. Composite resection with removal of mandible and radical neck dissection was done. Pectoralis major myocutaneous flap (PMMC) with deltopectoral flap was done to cover the defect. On the 14th day mucormycosis was noted on pectoralis major myocutaneous flap donor site. Radical debridement and appropriate antibiotic and antifungal treatment was started. The patient was put on life support system.

Results: Despite aggressive treatment the patient died.

Conclusion: This case reaffirms the views that radical surgical procedure should be carried out with caution in old patients with preexisting diseases as the chances of life-threatening complications are very high in these patients. Mucormycosis at pectoralis major myocutaneous flap (PMMC) donor site is probably being reported for the first time.

KEY WORDS

Buccal cell carcinoma, mucormycosis, pectoralis major myocutaneous flap

INTRODUCTION

Mucormycosis is a dreadful condition carrying very high morbidity and mortality. Mucormycosis is caused by a group of fungi found in rotting fruit and vegetables. The fungi do not cause disease in healthy individuals, but attack those with immunodepression.^[1] This infection can be devastating particularly in old immuno compromised patients with carcinoma of the oral mucosa. Although the mucor can affect any organ in the body, mucormycosis at pectoralis major myocutaneous flap donor site has never been reported.

CASE REPORT

A 71-year-old patient was admitted with non-healing ulcer involving the buccal mucosa and right side of lower lip. The lesion was found to be a squamous cell carcinoma on biopsy. X-ray showed mandibular involvement also. The patient used to smoke and consume alcohol before this illness. On clinical examination and investigations the patient was found to be normotensive and nondiabetic. Preoperative renal function was normal. The HBsAg and HIV status was normal. Composite resection with removal of right half of the mandible with radical neck dissection was done. The mucosal defect was

covered by right pectoralis major myocutaneous flap and the lip was formed by a deltopectoral flap. The resultant raw area on chest was covered by split thickness skin graft. The whole surgery lasted for about eight hours. First dressing on the fifth day showed complete skin graft take with excellent flap circulation.

Suddenly on the 14th postoperative day necrotic black patches were noted on chest wall skin as well as at the grafted site [Figures 1-2]. Radical debridement was carried out. The pectoralis minor muscle was also found to be necrosed and was removed along with necrosed skin.

Culture and biopsy studies showed presence of mucor associated with gram-negative bacilli [Figure 3]. Plenty of candida albicans were also found in urine. Amphotericin-B was started in 1 mg/ kg body weight / day given slowly intravenously over a period of four - to six hours. Imipenem was also added to counteract associated gram-negative septicemia. Blood indices were altered with reduction in platelet count. The necrotic areas went on increasing. The patient deteriorated very fast and developed all the signs and symptoms of septicemia despite an aggressive intervention. Patient was put on life support systems. Regardless of our wholehearted efforts patient died after five days.

DISCUSSION

Squamous cell carcinoma of the buccal mucosa is an aggressive tumor which presents a major therapeutic challenge because of its poor prognosis, particularly in old age because of a high loco-regional failure rate even in patients with T1-2N0 disease.^[2] Major therapeutic options are surgery, chemotherapy and radiotherapy either alone or in combinations. Radiotherapy and chemotherapy offering complete cure in buccal mucosa cancer are open to debate. At the same time they are also not free from complications.^[3-5] These therapies downsize the disease but do not offer complete cure. These modalities of treatment should be reserved only for advanced carcinoma with poor prognosis.^[6]

Surgery is required even after chemo and/or radiotherapy because of incomplete response. Even in multimodality approach surgery remains the mainstay of treatment in oral squamous cell carcinomas^[7] either pre or post chemo and/or radiotherapy.

Adequate excision with tumor-free margin, fast wound



Figure 1: Muscle necrosis with presence of mucor at right lower pectoral region



Figure 2: Muscle and DP flap necrosis with presence of mucor at right pectoral region - lateral view



Figure 3: Mucor grown on culture media

healing and early recovery remain the main goals of surgical treatment. Among these, adequate excision is surely in the surgeon's hands but other things are not. Management of oral cancer, particularly in old age becomes very tricky. Pain, bad dental hygiene, poor dietary habits, alcohol abuse, associated medical problems and tumor burden result in nutritional deficiency, weight loss and poor wound healing. In addition the neoplasm themselves are associated with

general immune suppression and an impaired cell-mediated immune response^[8] which again invites many superadded infections. Moreover, in old age all vital organs of the body are working on very little reserve capacity and a little assault on one can produce a cascading effect, damaging other organs as well. Progression of disease doesn't give adequate time to correct these nutritional deficiencies. The medicines also do not work optimally because of associated medical and nutritional problems. To minimize the incidence of complications, the preexisting conditions should be corrected as much as possible. Extra vigilance should be taken as far as the aseptic precautions are concerned. In addition to the administration of prophylactic antibiotics, preoperative hospital stay, preoperative cleansing, shaving techniques, operative length, remote infections and impaired host defenses should be closely monitored. Role of prophylactic antifungal treatment should be explored. A high index of clinical suspicion, an early diagnosis and prompt treatment are essential to have any chance of survival particularly in the situations like mucormycosis.

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