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CASE REPORT

Physiotherapy Rehabilitation after maxillary Alveolectomy in Poorly Diagnosed Squamous Cell Carcinoma patient

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ABSTRACT

Squamous cell carcinoma is the most widespread carcinoma of buccal mucosa in India. Tobacco is the strongest predictors for buccal carcinoma including alcohol. Buccal mucosa squamous cell carcinoma (BMSCC) appears to behave more rigorously than other subsides in the oral cavity because small anatomical barriers in the oral space do not essentially prevent tumour dissemination. Tumour management and disease control in the clinical nodes are the major priorities in the treatment of buccal mucosal carcinoma. Surgery followed by postoperative adjuvant radiation therapy is the preferred treatment in SCC of the buccal mucosa elsewhere and chemotherapy for favorable sufferers. The most common postoperative oral problems occurring are infection, pain, swallowing challenges, uncomfortable swallowing (odynophagia), distortion of voice (dysarthria), restricted movements at the operated site, chest pain and breathlessness, swelling of cheek, and limited mouth opening. In avoiding numerous challenges and treating clients to avert dysfunctions and regain proper actions physiotherapy serves an essential factor. Painful nonhealing ulcer over lower left back region of jaw (Pre- operative) 1 month back and now post -operative difficulty in mouth opening and restricted shoulder ROM at operated side, pain and breathlessness. Diagnosis was conformed of poorly differentiated squamous cell carcinoma (PDSCC) for left buccal mucosa which was confirmed by necessary investigations like biopsy, USG, MRI-CT Neck and other investigations like Liver Function Test, Blood Sugar and Urine, Radiograph (Pre-op PA Chest), ECG were done. Patient underwent a surgical treatment followed by rehabilitation. Physiotherapy management is found to be beneficial in achieving functional goals. The above study concludes that the definitive surgical approach and physiotherapy management is found to be effective in achieving functional goals.

Keywords: Oral Cancer care, Squamous cell carcinoma, Oral Surgery, Physiotherapy Rehabilitation.

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INTRODUCTION

Squamous cell carcinoma of the buccal mucosa (BMSCC) is the most widely recognized type of mouth cancer in South Asia, together with India and Taiwan. The fifth most pervasive cancer and the seventh greatest cancer mortality is thought to be worldwide. Also greater proportion of local regional recidivist was also correlated with and is seen commonly in people who are habitual tobacco chewers and/or smokers with or without alcohol intake. Tumour differentiation histopathology revealed that several sufferers (62 percent) had fairly distinct SCC. Furthermore, 50 cases (33%) had well-differentiated tumors and 7 cases (5%) had poor prognosis at SCCs[l].

Key tumor management and disease control in the clinical nodes are the crucial concerns in the treatment of buccal mucosal carcinoma. Survival is closely linked to the clinical level of primary site disease (T stage), lymph node illness (N stage), and the coupled stage of the disease. Postoperative radiation treatment, reserved for those with high-risk histopathological studies such as perineural penetration, lymphovascular invasion, bone invasion, extracapsular carcinoma, has historically been handled surgically[2].

Oral cancer treatment approaches encompass, alone or with combination of surgery, radiotherapy and chemotherapy[3]. Depending on the target cells and the severity of the infection, treatment approaches vary in both coverage and intensity[4]. Muscovites, infection, pain, bleeding, difficulties in swallowing, injury to the glands that generate saliva (xerostornia) or damage the jaw and neck muscles and joints (trismus), shedding of the teeth, trouble wearing dentures, painful chewing , poor speech impairment (dysarthria), and neck mass production are indications of metastasis of the lymph node, restriction of movements at the operated site, chest pain and breathlessness, swelling of cheek, and limited mouth opening are the greatest postoperative oral crises following radiation and chemotherapy[5].

Physiotherapy plays a major role in the rehabilitation of patients with oral cancers who undergo various treatments including head and neck exercises, mouth opening exercises using terabit devices, and shoulder mobility. It avoids and/or treats divergent troubles arising due to cancer

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treatments. Physiotherapy rehabilitation program mainly aids postoperatively such survivors of cancer in restoring themselves physically, morally and productively to gain proper functional range of the motion **(ROM)** and thus improve the quality of life[6].

The subject was aware that the case-related details would be sent for publishing, and permission was granted[?].

Presented case is of post operative **PDSCC** of a 58-year-old male treated **with** operative method and post-surgical physiotherapy[8].

Physiotherapy is seen as being effective in treating patients following surgery. Therapeutic measures comprise proper positioning of patients. Shoulder flexion and abduction exercises, shoulder shrugs, neck ROM exercises, breathing exercises, mouth opening exercises and mouth opening with assistive devices and bilateral upper limb and lower limb mobility exercises, etc. Physiotherapy is also beneficial in preventing and treating post-operative complications like limited mouth opening, issues with speech, swallowing and chewing, scar contraction, pain, loss of function, neurological dysfunction and disarticulation of temporomandibular joint. In this case, patient experienced limited mouth opening and restricted shoulder ROM form last lmounth. Patient got investigated and treated at AVBRH, Sawangi (Meghe), Wardha. And was subsequently treated under physiotherapy department at hospital in Sawangi (Meghe), Wardha with proper rehabilitation protocol.

PATIENT AND OBSERVATION

A 58 years old male who is a labor by occupation who lives in Kawtha, Hand dominance right hand noticed a painful non healing ulcer over lower left back region of jaw initially small in size and gradually increased in size. Patient was also experiencing pain which was gradual in onset, dull aching, intermittent and localized in nature. Pain aggravates during mastication. For that he

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visited SPDC where investigations were done like incision biopsy under LA. On the biopsy report he was diagnosed with Poorly Differentiated Squamous Cell Carcinoma. He was then referred to AVBRH where CT scan was done and then he got admitted to oral surgery department at AVBRH, Sawangi (Meghe), Wardha for further surgical management. After being operated for PDSCC, with complaints of post-operational ambiguity he was referred to physiotherapy department with hampered mouth opening and limited shoulder ROM on operated side. His medical history reveals that he is a known case of hypothyroidism and is on medication Tab. Thyrox 50 mg OD for the same. Patient is also recovered case of COVID-19 for which medicinal treatment was given 1 month back. Consulted test USG, MRI and other laboratory tests which was carried out. Ultrasonography interpreted multiple nodes in both lobes and isthmus of thyroid, Sub mental-14.6 X 19mm and left submandibular- 35X18.5 mm. And MRI interpreted ulcer proliferative lesion in the left angel of mouth involving left orbicular is oris, zygomaticus, left submandibular and sub mental (l.9Xl.4 cm) lymph node seen. Further patient underwent composite resection of lesion, maxillary alveolectomy from 22 to 28, MRND of left side and reconstruction with PMMC flap of left side under general anesthesia. Post operation patient was treated with antibiotics. Later patient was referred to physiotherapy. Post operatively patient has chief complaints of difficulty of mouth opening and painful and restricted shoulder ROM and breathlessness. The pain which patient addressed was dulling aching with intensity 6/10 on NPRS and the pain used to get aggravated while performing shoulder movements and gets relieved at rest.

DISCUSSION

In this case, patient represented with post operative complications like breathlessness, limited mouth opening and restricted shoulder ROM. Buccal mucosa cancer survivors suffer from high morbidity associated with various treatments such as chemotherapy, radiation, and surgery.

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Postoperative rehabilitation exercises have positive outcomes that potentially may increase quality of life in such subjects.

The most useful rehabilitation techniques have been reported as muscle stretching, strengthening exercises, chest physiotherapy, mobility exercises, and various maneuvers. Physical therapy has shown to help relax the muscles, increase joint flexibility, reduce fatigue, increase awareness of the altered RQ§.TI!r□i..w□i□s. and breathing patterns, manage difficulty in swallowing as well as mouth opening, and subsequently improve physical and functional well-being [9].

The clinical implications of physiotherapy management protocols to relieve cancer pain in palliative care have been well documented. Physiotherapy treatment has shown to be beneficial for symptomatic relief and improving quality of life in cancer patients. Physiotherapy in postoperative complications of head and neck cancers have suggested multidisciplinary healing should become an essential aspect of successful management of survivors of head and neck cancer (10].

The scapular flip sign had already been scrutinized on 20 subjects (13 male, 7 female) with pain and drastically reduced shoulder mobility following surgeries of head and neck or post trauma, and symptoms such as trapezoid pathology, shoulder girdle depression, partial active shoulder abduction to far less than 90 °, shoulder pain and shoulder weakness were found. Susan et al. have shown that patients withnerve-sparing neck resection may witness regain of shoulder function and physical therapy may play a critical role in reconstruction.

In patients treated with surgery as well as radioactive therapy for HNC, Weber et al. measured the highest possible inter-incision mouth opening (MIO) and noted that around 50% of patients had severely restricted mouth opening (<36 mm); and in patients with oropharyngeal cancer, the threat

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of trismus (P= 0.024) was vastly better than in patients with other HNCs. The extent oflethargy in cancer patients was assessed by Janaki et al.

Exercise can thus carry a key role as a supplemental therapy for cancer patients both during and post treatment.

Conclusion

The present case report highlights the importance of physiotherapy intervention performed after composite resection of lesion, maxillary alveolectomy, proves very beneficial to the patient and led to enhancement in functional goal of patient. Scheduled exercise program benefits the patient and also minimize the complications after the surgery.

Thus the, multidisciplinary recreation is an intrinsic part of the entire clinical management with cancer. To every client, the definitive functional debt levels need to be formulated and precise restoration protocols should be initiated readily almost at the same frequencies as other therapies.

COMPETING INTERESTS

The authors declare no competing interest.

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Figure 1: Post- operative picture of patient showing swelling at the operated site and limited mouth opening

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