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CLINICAL CASE REPORTS

Management of Inoperable Buccal Cancer by Laser Ablation-A Case Report

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Abstract

Inoperable and unresectable carcinoma of oral cavity is defined as the tumour in which R0 resection is not possible even with a massive resection of Maxillary and Mandibular bone.

These patients are generally administered adjuvant chemotherapy in hope for a resectable tumour after 2 to 3 sessions of chemotherapy.

Laser ablation can bring down the tumour content predictably by a great extent in only 1 session.

A 70 yr. old patient presented with unresectable buccal carcinoma which had spread through retro mandibular area to outside skin and neck. The patient went a single session of laser ablation with some minor sessions and subsequent chemotherapy.

On subsequent followups he was found to have a considerable decrease in his tumour load.

At the end of 3 months he was found to be practically tumour free.

He had a small fistula in RMT area at the end of 9 months which was gradually closing down.

The patient had a remarkable recovery which was documented. The patient at end of 10 months has been cancer free for last 6 months.

Conclusion: Laser ablation is a new and viable alternative to surgery in selected cases.

Keywords: Laser Ablation, Massive Buccal Carcinoma, Unresectable oral carcinoma, Palliation in Oral carcinoma

1 | INTRODUCTION

According to GLOBOCON 2012 data, oral cavity cancer was the most common cancer in men in India accounting for 53,842 cases (11.3% of all cancer cases). Oral cavity cancer was responsible for 36,436 deaths (10.2% of all cancer-related deaths) in men. In women, oral cavity cancer

occupied fifth position in terms of incidence with 23,161 cases (4.3% of all cases) and it was fifth most common cause of cancer-related mortality with 15,631deaths (4.8% of all cancer-related deaths) (1).

Oral cancer is a significant public health problem in India and ranks among the top three cancers accounting for one third of all cancers reported in the country. Though it is easily accessible by examination and modern diagnostic tools, a vast number of patients present in later stages. This is partly due to patients coming from rural areas with limited access to diagnostic facilities and attempting herbal or ayurvedic medication in the hope of eradicating it. Since it is a disease of the lower socio-economic groups there is lack of awareness as well as trying out cheaper options regarding treatment. Hence the late presentation. Early detection offers the best chance of optimal treatment outcomes and long-term control and survival. (1).

The leading cause of cancer in the oral cavity in India is chewing tobacco in the form of "gutka" or "paan" and smoking "bidis" or cigarettes and consumption of alcohol. Both these substances are carcinogenic. Sharp teeth or ill-fitting dentures causing irritation of the mucosa may also be responsible. Denture related sores may be colonized by candida or HPV and may contribute to developing oral cancer. (1).

2 | PATIENT AND METHODS

A 65 year old male reported to the Department of Oral Cancer with an ulcero-proliferative lesion in the oral cavity extending on the surface of the face on left side for a period of 5 months. There was a history of tobacco chewing in the form of Gutka several times a day for 20 years prior to presentation. There was no history of smoking. He presented five months after he noticed the lesion which was then very extensive. It was diagnosed as poorly differentiated squamous cell carcinoma .

on biopsy. Oral hygiene was unsatisfactory. In addition, he had multiple lymph nodes in the ipsilateral neck.

The patient presented with a gradual increasing swelling of the left cheek and frequent bleeding episodes from the tumour over 1 month. On examination he had a massive tumour of the left buccal mucosa extending to the upper and lower gingivobuccal sulci, the cheek muscle and skin. Posteriorly it extended to the RMT and perforated to outer surface of the face laterally. There was trismus (0.5 cm mouth opening). In addition he had a 9 kg weight loss over 3 months.

Patient had Nasotracheal intubation under GA. The tumour and lymph nodes were ablated using the 980 nm surgical diode by Gigaa lasers under sonography guided imaging.

Repeated laser ablations were carried out on a 3 weekly basis under local anaesthesia and sonography guided imaging for a period of three months. The first laser was of two hours duration while subsequent procedures under local anaesthesia ranged from 5 to 10 minutes making total of 4x3=12 number of procedures. Concurrent chemotherapy sessions with Cisplatin, Paclitel and 5 FU in standard dose were administered every three weeks for 2 cycles followed by Cisplatin and Paclitel for 4 cycles.. MRI study was carried out every two months after primary procedure to detect regression of the disease.

Lymph nodes were laserised using laserby the standard technique. (2)

These laserised lymphnodes were followed upon Ultrasonography and MRI.

3 | RESULTS

Patient was pain free within 24 hours of primary laser procedure. No bleeding was seen after 24 hours. He was on soft diet within 24 hours and full diet within a week. He was discharged after 3 days. His speech improved considerably. Swelling reduced gradually

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within two months. .The lymph nodes regressed to undetectable levels within 3 months He got back to normal activity six weeks and had 4 kg weight gain over 8 months

FIGURE 1: Presentationof Patient
Extensive ulceroproiferative lesion spreading outside from RMT area

FIGURE 2: Tumour in Oral cavilty

4 | DISCUSSION

Tobacco plays an important part in causation of Oral cancers . Oral cancer is the leading cancer in Males in India (1). The carcinogens in tobacco belong to multiple chemical classes, including polycyclic aromatic hydrocarbons (PAHs), *N*-nitrosamines, aromatic amines, aldehydes, volatile organic hydrocarbons, and metals. In addition to these well-established carcinogens, others have been less thoroughly investigated. These include alkylated PAHs, oxidants, free radicals, and ethylating agents. (2)

The incidence of inoperable cancers presenting in India is much more than operable cancers. Estimates are about 80% of all oral cancers are in stage 4 when they present in India.

FIGURE 3: Post Laser and chemotherapyafter 8 months. Healed area with scarring.

FIGURE 4: Post Laser and chemotherapyafter 8 months No tumour seen intraorally with a fistula to exterior.(Blackarrow)

FIGURE 5: PETscan showing a massive carcinoma involving RMt and outer surface of Face. Black arrow points to the tumour.

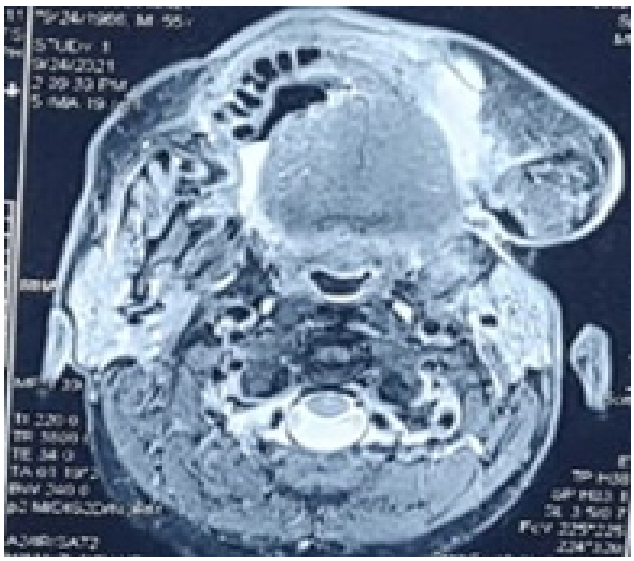

FIGURE 6: MRI Total resolution of thetumour after 10 months.Black arrow points to area of inflammatoryhyperintensity.

It is not just lack of medical facilities but also rapid progression of the disease in most cases.

The survival rates for inoperable cancers in India are abysmally low. Most patients have a life span of less than 3 months. (3–5) .

Quality of life plays an important part in management of Oral cancer patients. Mouth being the entry point , any disruption in the natural eating process leads to a decrease in Quality of life. (6). This becomes one of the main reasons for patients delaying surgery for oral cancer.

Laser ablation is now recognized as an alternative to excision in many soft tissue tumours. It is approved by USFDA for treatment of soft tissue tumours (7)

Prognosis is better for small sized lesions and is obviously poor for large unresectable lesions (8)

. Laser ablation works by heat induced destruction of cancer cells as well as vascular thrombosis and protein denaturation of cellular proteins of heat affected cells. (9, 10)

Judicious use under sonography control can be used to kill a majority of the tumour . This can be followed by chemotherapy for a good palliation and remission. Figures 1, 2, 3, 4, 5 and 6 .

Conventionally this stage of patients are managed by chemotherapy and radiation which has an extremely low rate of response. Palliation is added to the term which basically means pain control and airway patency.

Since this is end stage disease most patients will not live beyond 2 months at this stage.

Remission is the term used for a period of no active cancer. Laser can add a new level of remission for these patients by clearing up the tumour with help of chemotherapy.

The quality of life is much better with practically all oral functions intact.

The main limiting factor in assuring a long-term survival in cases of Late stage oral cancer is due the phenomenon known as field cancerisation (10, 11)

Field cancerisation refers to the phenomenon of multiple origins of deposits of genetically altered cells in the oral mucosa which are more prone to turn malignant as time goes by. This phenomenon is more apparent in late stage cancers and in patients ingesting tobacco, Alcohol products.

This leads to an inevitable recurrence in the surrounding tissue spaces of a surgically corrected tumor bed with excision and a surgical Flap. This makes any surgery in late stage oral cancer mainly palliative even if carried out with a curative intent with adequate surgical margins. . (10, 11).

Several studies have emphasized the Limited Quality of Life obtained after mandibular/maxillary removal operations. (12). Laser holds great promise in the field of Oncosurgery as this case has demonstrated. (13, 14) In our review of literature we could not find any similar case with a full resolution of oral cancer in such an extensive stage .Therefore we would like to present this case a start of a possible alternative for patients in major unresectable cases of oral cancer.

5 | CONCLUSION

Laser offers a viable alternative to conventional NACT to bring down the tumour load in oral cancer . The resulting tumor load is now amenable to chemotherapy and can help bring the patient in remission. The Laser ablation technique involves coworking with a radiologist and modification of standard operating procedures. The skill sets are new and evolving . It holds great promise as more surgeons learn the techniques and protocols.

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