

A CASE REPORT OF TREATMENT OF CARCINOMA OF THE LOWER LIP WITH A MODIFIED ABBE-ESTLANDER FLAP

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Abstract

This case report concerns a 78-year-old woman with a lesion of the lower lip who is referred by a dermatologist for surgical treatment to the University Hospital "St. George" in Plovdiv, Bulgaria. An excisional biopsy was done and sent for examination. The result showed low-grade Squamous cell carcinoma of the lower lip. A CT scan of the head and neck was performed, which showed no metastases in the regional lymphatic basin. A specialist radiologist was consulted in advance. Although the cancer is poorly differentiated we decided not to use preoperative radiotherapy due to the small size of the lesion and the lack of metastases in the regional lymph nodes. Under general anaesthesia, a surgery was performed to completely remove the carcinoma and subsequent plastic surgery according to Abbe-Estlander flap, using some modification by moving an artery, a vein together with the used flap from the upper lip. **Introduction:** One of the most frequent malignant lesion of the oral cavity is the lip cancer. Squamous cell carcinoma is assumed to be one of the most well-known diseases of oral cancer. One of the risk factors for development of lip cancer is the sun exposure. Squamous cell carcinoma must be diagnosed with histological findings. **Purpose:** Presenting a case of a 78-year-old patient with a lesion of the lower lip undergoing operative treatment to remove a low-grade squamous cell carcinoma of the lower lip. **Material and Methods:** The examination reveals a lesion of the lower lip. One of the main diagnostic methods in this case is the biopsy. The excisional biopsy showed low-grade squamous cell carcinoma of the lower lip. Treatment for lip cancer is primarily surgical and depends on the extent of the lesion as well as its location. The main goals of the surgeons are extirpation of all tissue involved with cancer including the primary lesion, functional reconstruction of the lip and facial cosmesis and return to daily activities. In this case we used a modified Abbe-Estlander flap to achieve all our goals. **Results:** The patient has satisfactory results in terms of aesthetic and functional outcome. **Conclusion:** The aim of the current work is to report a case of surgical therapy of the lower lip using a modified Abbe-Estlander flap. This method is safe and provides functionally and aesthetically pleasing result and affords versatility in flap design.

Keywords: Lip cancer, Lower lip, Squamous cell carcinoma, Modified Abbe-Estlander flap, Lower lip reconstruction.

INTRODUCTION

One of the most frequent malignant lesion of the oral cavity is the lip cancer which constitutes 25-30% of all oral cavity cancer cases and is the second most common malignancy of the head and neck overall (after cutaneous malignancy) (Karni and Ron, 2009; Taghavi and Yazdi, 2015; Salgarelli *et al.*, 2009). It almost exclusively affects white people, with a clear predominance among males. The incidence increases with age, reaching a peak in the seventh and eighth decades (Salgarelli *et al.*, 2009). Oral cancer is responsible for approximately 145,400 deaths worldwide per year and has a 5-year survival rate of 50,00 % -60,00 % (Takeda *et al.*, 2013). Risk factor for development of lip cancer is the sun exposure and the high level exposure of ultraviolet radiation (Chieh-Yuan Cheng *et al.*, 2008), alongside tobacco smoking and chronic irritation. This helps explain why 90% of lip cancers occur on the lower lip, due to the higher level of sun exposure compared to the upper lip which is far less exposed to the sun shielded by the nose and is angled slightly downwards (Karni and Ron, 2009; Salgarelli *et al.*, 2009). Squamous cell carcinomas are the most frequent pathology. Lip cancers develop slowly and metastasize to the lateral cervical lymph nodes in 3% to 29% of cases (Salgarelli *et al.*, 2009). The carcinoma of the lip is actually diagnosed as a mixture of cancers of the external lip and cancers of the buccal membranes (Czerninski *et al.*, 2010).

Treatment options must be assessed by the multidisciplinary team and evaluated before reaching a final plan due to the heterogeneous nature of oral cancer (Gooris *et al.*, 2002). In many countries, surgery remains the first option for treating oral cancer (Vukadinovic *et al.*, 2007). Lip reconstruction poses a particular challenge for surgeons because the lips are the dynamic center of the lower third of the face (Chieh-Yuan Cheng *et al.*, 2008). In 1872 Estlander emphasized the importance of the flap and Abbe in 1898, was the first to switch a lower lip flap into the upper lip for a cleft deformity (Husein Husein-El Ahmed, 2017; Franc *et al.*, 1996). The technique of Abbe flap is used by many surgeons due to its efficiency, safety, good hemostasis, functionality and positive cosmetic results (Husein Husein-El Ahmed, 2017). The aim of this paper is to report a case of an old age lip cancer patient reconstructed by using a modified Abbe-Estlander flap with good functional results and cosmetic satisfaction.

MATERIALS AND METHODS

In this case report we present a 78-year-old woman with a lesion of the lower lip who is referred for surgical treatment by a dermatologist for treatment to the University Hospital "St. George" in Plovdiv, Bulgaria (Fig. 1). An excisional biopsy was done and sent for examination (Fig. 2). The result showed a low-grade squamous cell carcinoma of the lower lip. A CT scan of the head and neck was performed, which showed no metastases in the regional lymphatic basin. A specialist radiologist was consulted in advance.

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Fig. 1. Carcinoma before surgery



Fig. 2. Carcinoma after the biopsy



Fig. 3. Suture of the wound

It was decided not to use preoperative radiotherapy due to the small size of the lesion and the lack of metastases in the regional lymph nodes, although the cancer is poorly differentiated. We discussed different surgical options considering the size of the lesion and the risks and benefits of the different surgical techniques. We decided to use a modified Abbe-Estlander flap. The procedure was performed under general anesthesia. We completely removed the carcinoma and subsequent plastic surgery according to Abbe-Estlander flap, using some modification by moving an artery, a vein together with the used flap from the upper lip (Fig. 3). We think the final outcome is positive. The surgery was functionally successful and has an aesthetically pleasing result.

RESULTS

Aim of the study is to report a case of surgical therapy of the lower lip using a modified Abbe-Estlander flap. One of the main advantages of this technique is the highest degree of aesthetic camouflage (Husein Husein-El Ahmed, 2017). According to our own experience with this technique - a modified Abbe-Estlander flap, we believe that it constitutes an interesting, useful, easy and reliable method in the treatment of lip carcinoma and lip reconstruction. This method is safe and provides functionally and aesthetically pleasing result and affords versatility in flap design (Kumar *et al.*, 2017). Our experience with the modified Abbe-Estlander flap has been encouraging and the result obtained was extremely satisfactory.

DISCUSSION

Reconstruction of the lower lip after a squamous cell carcinoma excision is an especially challenging task due to various anatomic factors. It includes maintenance of oral competence, sufficient oral access, preservation of lip sensation and good cosmetic outcome (Husein Husein-El Ahmed, 2017). The technique holds a reliable position as a lip reconstruction method because it helps for aesthetic oral commissures and good blood supply (Husein Husein-El Ahmed, 2017; Kumar *et al.*, 2014). The modified Abbe-Estlander flap shows good results. This technique is cosmetically and functionally successful resulting in good symmetry of the oral commissure (Husein Husein-El Ahmed, 2017). For old age patients with squamous cell carcinoma of lower lip, the goals of lip reconstruction include remain lip function, satisfactory aesthetic result and support prosthesis

fabrication (Chieh-Yuan Cheng and Hsu-Wei Fang, 2018; Neligan, 2009). In our case we used modified Abbe-Estlander flap which is usually used with younger patients whose tissues are more flexible. The advantages of lower lip reconstruction with Abbe-Estlander flap were good aesthetic results, restoration of the motor and sensory innervations, and equal shortage of the lips (Chieh-Yuan Cheng and Hsu-Wei Fang, 2018). Even in this case of a 78 years old patient, where there is an increased risk of anatomic distortion through wound contraction and may lead to poor functional and aesthetic outcome, the modified Abbe-Estlander flap allowed us to achieve a satisfactory final result. Based on our experience, Abbe-Estlander flap is a reliable reconstruction technique for elderly lip cancer patients.

Conclusion

Some of the main risk factors having impact on the prognosis of lip cancer include size of the tumor, histopathological type and grade, perineural invasion, regional lymph node metastasis, and local recurrences (Karni, 2009). Management of lip cancer is a surgical challenge. The lips play an essential role in the appearance of the face, facial expression, language function, and the ability to speak. For elders, lips also play an important role for chewing and denture fitting (Chieh-Yuan Cheng and Hsu-Wei Fang, 2018). In some case studies, lip cancer has been reported to be the most common oral cavity tumor (Salgarelli *et al.*, 2009) and is usually diagnosed earlier than other carcinomas of the oral cavity, because it is more visible. The surgical management of the lips is a serious challenge due to the important role of this area in aesthetics and in different functions such as nutrition and speech. Last but not least the difficulties come also because of the complex anatomy of the lips with their three different layers composed of skin, mucosa, and muscles (Husein Husein-El Ahmed, Rafael Armijo-Lozano, 2017). In this article we report a case of surgical therapy of the lower lip after the excision of a low-grade squamous cell carcinoma of the lower lip using a modified Abbe-Estlander flap with a satisfactory final outcome. The use of flaps for the reconstruction of large defects with low risk of necrosis is possible given the abundant blood supply of the lips (Husein Husein-El Ahmed, Rafael Armijo-Lozano, 2017). The surgery was functionally successful and has an aesthetically pleasing result. This method is safe and provides functionally and aesthetically pleasing result and affords versatility in flap design. Our experience with the modified Abbe-Estlander flap has been

encouraging and the result obtained was extremely satisfactory.

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