Extended Surgical Techniques in Advanced Aggressive Head and Neck Tumors: Presentation of Three Cases

İleri Evre Agresif Seyirli Baş-Boyun Bölgesi Tümörlerinde Üç Olgu Eşliğinde Genişletilmiş Cerrahi Teknikler

İleri Evre Tümörlerde Genişletilmiş Cerrahi / Extended Surgery in Advanced Tumors

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Özet

Genişletilmiş cerrahi, klasik anlamının ve sınırlarının ötesinde yapılan geniş çaplı cerrahi girişimleri tanımlar. Bu yazıda, baş-boyun bölgesinin agresif seyirli cilt ve yumuşak doku kökenli tümörleri nedeniyle üç hastada uyguladığımız genişletilmiş cerrahi tekniklerin paylaşılması amaçlanmıştır. Yapılan radikal geniş cerrahi rezeksiyon sonrasında ikinci hastamız enfeksiyöz komplikasyonlar ile kaybedilmiş olmasına rağmen, diğer iki hastamız beklenen yaşam süresinden daha uzun bir süre hayatta kaldılar ve bu sürede fonksiyonel ve psikolojik açıdan kabul edilebilir bir palyasyon sağlandığını gördük. Bu iki hastadan elde ettiğimiz tecrübe bu konuda bize cesaret vermektedir. Baş- boyun bölgesinin agresif seyirli, ileri evre tümörlerine, bu konuda deneyimli merkezlerde radikal cerrahi rezeksiyonlar başarıyla uygulanabilir.

Anahtar Kelimeler

Genişletilmiş Cerrahi; Baş-Boyun; Tümör

Abstract

Extended surgery is described as extensive surgical interventions beyond classical definitions and margins. We aimed to investigate our extended surgical techniques in three cases with advanced aggressive head and neck tumors of skin and soft tissue origin. After radical wide surgical resections, two patients had survival periods of more than expected with an acceptable functional and psychological palliation, although, one patient was lost due to infectious complications. The experience obtained from these two patients is encouraging. Our observations suggest that extended radical surgical resections may be performed successfully for the patients with advanced and aggressive head and neck tumors in experienced centers.

Keywords

Extended Surgery; Head-Neck; Tumor

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Introduction

Extended surgery, however, is described as extensive surgical interventions beyond classical definitions and margins of advanced head and neck tumors disturbing the patient's physical, psychological and social well being. These types of extensive surgical interventions have always been a subject of debate due to unknown effect on survival and increased morbidity and mortality. However, extended surgery may increase quality of lives and survivals of some patients with advanced head and neck tumors by decreasing infection, bleeding and airway obstruction. Here we present our extended surgical techniques in three cases with advanced aggressive head and neck tumors of skin and soft tissue origin and share our results.

Case Report

We performed extended surgery for three patients with the diagnosis of squamous cell carcinoma (SCC), basal cell carcinoma (BCC) and osteosarcoma (OS). Clinical characteristics of the patients were summarized in Table 1.

Table 1. Clinical characteristics of the patients

No	Age	Sex	Pathology	Stage	Disease duration	Adjuvant treatment	Post-op. complication	Post-op. survival
1	68	Male	Squamous cell carcinoma	T4N0M0	18 mo.	5FU + Cisplatin + Radiotherapy	Necrosis at the suture line, partial wound exposure	Relapse at 28 months, then lost to follow up
2	57	Male	Basal cell carcinoma	T4N0M0	24 mo.	None	Sepsis	Exitus at 6th day
3	18	Male	Osteosarcoma metastatic to mandible	T4N1M1	18 mo.	None	None	Exitus at 2 months due to metastasis

mo: months, 5-FU: flourouracil

Case 1

Sixty-eight year-old male presented with a large ulcerative tumor originated from his left cheek about 18 months ago and extended gradually to his left eye and forehead. Physical examination revealed an ulcero-vegetative, foul smelling and apparently infected tumor, reaching 15x20 cm in size and infiltrating maxillary bone, left eye, left cheek, temporomandibular joint, left half of the forehead and left external auditory canal. The radiological work up showed that the tumor infiltrated maxillary, ethmoid and frontal sinuses. Biopsy revealed squamous cell carcinoma.

Case 2

Fifty-seven year-old male presented with an ulcerated lesion for about two years involving the left cheek and eye. The tumor extended and deepened in time, reaching 8 x 10 cm in size. The radiological work up showed that the tumor infiltrated the maxillary sinus, temporal bone and temporomandibular joint. Biopsy revealed basal cell carcinoma.

Surgical technique

We planned the excisions of the left halves of the faces of these patients with prosthetic replacement. Incisions with 1.5 to 2 cm of clear surgical margins were provided. The left half of the nose was included to the incision to obtain healthy margin for the first patient. Further surgical resections for the both patients were radical maxillary resection including ethmoid sinus, partial excision of ramus mandible, excision of the zygomatic and temporal bones up to the base of skull, parotid gland, submental gland, halves of the upper lips and hard palate, upper, lower and inner walls of orbita and eye ball. Remaining mucosa was sutured to the lower lateral side of the tongue and upper palate. Partial mandibulectomy was performed at the level of mandibular angle.

The durameter defect at the base of skull was repaired using a myocutanous flap of sternocleidomastoid (SCM) muscle. Skin flap was raised 2 cm above the clavicle up to the parotid gland and sutured to the hairy skin of forehead. The neck flap, 7-8 cm in size, was used for the second patient and modified radical neck dissection was also performed.

A partial flap necrosis and minimal partial wound dehiscence did not prolong the wound healing. The patient underwent postoperative radiotherapy and chemotherapy. He refused an offer for prosthetic replacement. The patient relapsed 28 months after the surgery with multiple and unresectable tumors. He was given one cycle of chemotherapy and then lost to follow-up. The second patient developed sepsis and pancytopenia in the postoperative period and died on the 6th day of surgery.

Case 3

Eighteen year-old male patient underwent amputation due to osteosarcoma of the tibia 3 years ago and developed lung metastases two years after surgery. He was referred to our clinic

with rapidly progressive large mass at the level of left mandibular angle involving the left side of neck and half of his face, causing dysphagia, bleeding and shortness of breath (Figure1). The histopathological diagnosis was osteosarcoma. The computerized tomography demonstrated a destructive mass of left mandibular origin, infiltrating the posterior wall of the left maxillary sinus, pterygoid bone and the arch of left zygomatic bone. The mass progressed rapidly within 10 days and the patient was operated without further delay.

Surgical technique

The patient was intubated through tracheostomy and radical maxillectomy incision was used (Figure 2). Maxillectomy with preservation of the eye ball, mandibular resection below mandibular ramus using gigli saw including temporomandibular joint and partial temporal bone resection were performed. Mucosal defect was left for secondary healing. Wide excisions were avoided due to disseminated disease. The skin defect was closed with a skin flap (Figure 3). Gastrostomy is preferred for enteral feeding. Postoperative course was uneventful (Figure 4). Tracheostomy cannula was removed on the 4th postoperative day, oral feeding was allowed on the 7th day, and the patient was discharged on the 10th day after the surgery.

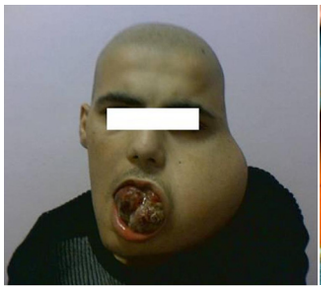

Figure 1. Pre-operative appearance of the tumor.

Figure 2. The pre-operative incision margins of the patient

Figure 3. Intra-operative appearance of the patient after the excision, reconstructed with skin flap.

Figure 4. Post-operative appearance of the patient.

Discussion

Tumors involving the oral cavity and face may cause serious cosmetic problems and functional loss. Functional loss of clinical importance includes speech and masticatory dysfunction, visual loss, swallowing problems and dysfunction of salivary glands. The patient may experience rapid physical and psychological deterioration due to decreased oral intake [1].

Treatment approaches for the aggressive and advanced tumors of the oral cavity and face may be outlined under four groups. The first option is supportive care including palliative surgery. The other options include palliative radiotherapy (RT) or chemotherapy (CT). The last option is extended salvage surgery. Jones et al. reported that 15% of the head and neck tumors needed palliative treatment at the time of diagnosis [2]. Timon et al. also reported this rate as high as 21% [3]. It has been demonstrated that palliative radiotherapy alone did not have an affect on quality of life and survival in patients with aggressive and advanced head and neck tumors [4]. The results of the palliative chemotherapy were not promising either. Supportive care including simple palliative surgical interventions is the only choice in cases of comorbid conditions interfering with administration of general anesthesia, technical difficulties and patient refusal of an extensive surgery. Tumoral factors such as size and location of the tumor and depth of the invasion may affect the respectability of tumor.

The most important step before the extended surgery is informing the patient and relatives of the surgical procedure and possible results in detail. Pre-operative investigations and preparations should be filed and photographed when appropriate. Metastatic work up should be completed for distant sites including bones. The patient's with poor oral intake should be given appropriate nutritional support. Detailed oral and dental examination and extraction of the decayed teeth before the surgery may decrease the incidence of infection during postoperative period.

Oral and facial defects occurring after the surgery may be repaired with geometrical flaps such as Limberg flap, or regional flaps may be prepared for larger defects. Flaps are usually prepared from neck, posterior auricular region or chest wall. Functional and cosmetic results may be satisfactory after these types of operations. However, larger defects may create serious problems. Reconstruction of such defects may necessitate complex flaps that include muscular tissue or prosthetic replacement. Extended surgery for such patients may increase survival rate and quality of life as long as the potency of the airways and upper digestive tract are preserved. In cases where wider resections are avoided, the survival is usually very short with a poor quality of life.

Dryness of the mucosa after the surgery may delay wound healing. Therefore, supportive and preventive measures should be taken such as adequate oral hydration, irrigations of the oral and nasal mucosa and use of oral lozenges and nasal spray. Oral flora is the most important source of infection; therefore, oral

care is of utmost importance.

Neck dissection is indicated in the presence of regional lymph node metastasis [5]. One of the primary goals after the surgery should be the preparation of the patient for radiotherapy as soon as possible. The most serious late adverse effect of radiotherapy is the osteonecrosis of the bone. This complication risk is especially increased in patients who undergo cranio-facial surgery. Prosthetic replacement after adjuvant treatment may give better cosmetic results. Prosthetic replacement should be delayed until complete wound healing after surgery and radiotherapy.

In conclusion, three patients with advanced and aggressive head and neck tumors presented here had serious functional and psychological problems at the time of presentation. They had very poor oral intake and their expected survivals and quality of lives were very poor. After radical wide surgical resections, two patients had survival periods of more than expected with an acceptable functional and psychological palliation, although, one patient was lost due to infectious complications during early post-operative period. The experience obtained from these two patients is encouraging. Extended radical surgical resections may be performed successfully for the patients with advanced and aggressive head and neck tumors in experienced centers.

References

1. Padgett JK, Hendrix JD Jr. Cutaneous malignancies and their management. Otolaryngol Clin North Am. 2000;34:523-553.
2. Jones AS. The untreated patient with squamous carcinoma of the head and neck. Am J Clin Oncol. 1995;18:363-368.
3. Timon C, Reilly K. Head and neck mucosal squamous cell carcinoma: results of palliative management. J Laryngol Otol. 2006;120:389-392.
4. Morrison WH, Garden AS, Ang KK. Radiation therapy for nonmelanoma skin carcinomas. Clin Plast Surg. 1997;24:719-729.
5. Civantos F, Zitsch R, Bared A, Amin A. Sentinel node biopsy for squamous cell carcinoma of the head and neck. J Surg Oncol. 2008;97:683-690.