Does Tissue Adhesive Ethyl 2-Cyanoacrylate May Be Use To In Patients With Purulent And Necrotic Tumor Tissue

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Pürülan Ve Nekrotik Tümör Dokulu Hastalarda Doku Yapiştiricisi Ethyl 2-Cyanoacrylate Kullanilabilirmi
Özet
Giriş: Baş ve boyun cerrahisinin cerrahi tedavisinde eğer karotis arter tutulumu söz konusu ise bu durumu komplike hale getirebilir.
Olgu Sunumu: Squamoz hücre karsinomunun invazyonu nedeniyle spontan rupture olmuş karotis arter olgusunu sunduk. Ellibir yaşında erkek hasta. Beş yıl önce squamoz hücre karsinomu nedeniyle parsiyel larenjektomi ve radyoterapi uygulanmış.Hasta spontan karotis rüptürü nedeniyle kliniğimize müracaat etti. Karotis arterine ligasyon uygulandı. Hiç bir teknikle deri rekonstrüksiyonu mümkün olmadı. Bu doku kavitesi ethyl 2-cyanoacrylate ve kollajen ile kapatıldı.
Sonuç: Pürülan ve nekrotik tumor dokulu hastalarda ethyl 2-cyanoacrylate'ın kullanılmamasının iyi olacağı kanaatindeyiz.
Anahtar Kelimeler: Ethyl 2-cyanoacrylate, karsinom, karotis arter.

Summary
Background: The initial surgical management of head and neck cancer may be complicated if the tumor invades the carotid artery.
Case report: We present a case of spontaneously ruptured carotid artery due to squamous cell carcinoma invasion. A 51-year-old male patient had undergone partial laryngectomy and radiotherapy for squamous cell carcinoma four years before. The patient was admitted to our clinic with a spontaneous carotid rupture. Ligation was performed of the carotid artery. Skin reconstruction was not possible by any technique. This tissue cavity was closed with collagen together with ethyl 2-cyanoacrylate.
Conclusion: We think that ethyl 2-cyanoacrylate should not be used as a tissue adhesive in purulent and necrotic tumor tissue patients.
Key Words: Ethyl 2-cyanoacrylate, carcinoma, carotid artery.

Introduction

Invasion of the carotid artery may occur in advanced cases of squamous cell carcinoma of the neck. Some surgeons hesitate to resect the carotid artery because of the postoperative risk of neurological complications. However, there is no curative therapeutic option for head and neck neoplasm involving the carotid artery. Recent series demonstrated that gross microscopic invasion of the carotid artery wall and carotid resection has rarely had a major impact upon long-term patient survival (1, 2).

Case Report

A 51-year-old man had undergone partial laryngectomy and radiotherapy in 2002. In 2006, a new mass appeared on the right side of the neck, measuring 40X30 mm and attached to the carotid artery. The patient underwent excision of the mass in the department of otolaryngology. One month later, this patient was admitted to our clinic with separation of the lips of the wound and spontaneous carotid rupture. He underwent surgery. During the operation, purulent and necrotic tumor tissue and a ruptured carotid artery were found (Figure 1a). This finding accompanied prolonged hypovolemia and for this reason ligation was performed on the proximal and distal edges of the carotid artery (Figure 1b). Skin reconstruction with a flap or other techniques was not possible. To cover the edge of the carotid artery, this tissue cavity was closed with collagen together with the tissue adhesive ethyl 2-cyanoacrylate (cyanacrylacidethylester; Lely Turbo Ltd, Istanbul, Turkey.) (Figure 1c). No neurological or ischemic events occurred during the postoperative period. By postoperative day 10, this filling material had separated from the surrounding tissue (Figure 1d).

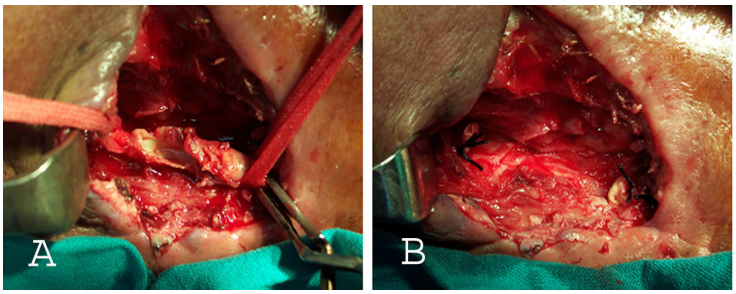

Figure 1a: Purulent and necrotic tumor tissue and a ruptured carotid artery. **Figure 1b:** Proximal and distal edges of the carotid artery were ligated.

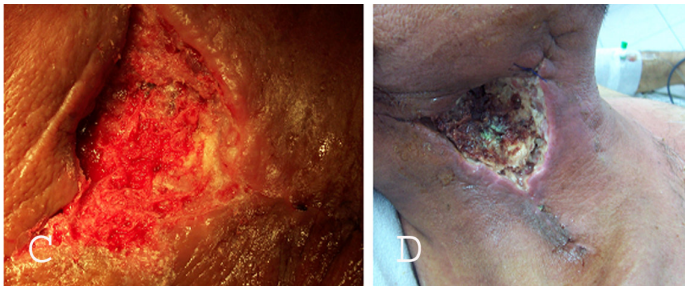

Figure 1c: Tissue cavity was closed with collagen together with the tissue adhesive. **Figure 1d:** Filling material had separated from the surrounding tissue.

Discussion

Tumor invasion or adherence to the carotid artery may require carotid resection to achieve control of the disease. However, there is a significant risk of stroke and death. Therapeutic options for the management of head and neck tumors with invasion of the carotid artery include irradiation therapy, palliative carotid peeling, and resection with or without bypass grafting. Failure to fully resect the segment of the carotid involving the tumor may result in tumor recurrence or death due to carotid rupture. In the reported case, resection failed despite carotid involvement by the tumor and for this reason a carotid artery rupture developed spontaneously (1-3).

Ethyl 2-cyanoacrylate was used as hemorrhage cannot be controlled by classical methods and tissue integrity cannot be attained in cases with sternal dehiscence and in continuing pulmonary air leakage, as a tissue adhesive, together with a pericardial patch and expanded polytetrafluoroethylene patch or teflon felt, for repairing tissues and bleeding from the femoral artery due to femoral epidermoid carcinoma (4).

Kaplan and colleagues reported that the tissue adhesive ethyl 2-cyanoacrylate has the advantages of being inexpensive, readily available, easily applicable, effective, safe, and life saving. Due to its acceptable histopathological results, ethyl 2-cyanoacrylate may be used as an alternative adhesive (5). In spite of this, we did not obtain an effective adhesive effect from ethyl 2-cyanoacrylate after ten days, because there was purulent and necrotic tumor tissue in our case.

Conclusion

Finally, this case indicates that ethyl 2-cyanoacrylate should not be used as a tissue adhesive in patients with purulent and necrotic tumor tissue.

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