PDC

ORL

Original Paper

ORL 1998;60:108–110

Received: August 20, 1997
Accepted: August 29, 1997

Carotid Artery Reconstruction following Resection during Radical Neck Dissection

C. Soulier[a]
P. Dulguerov[a]
J. Maurice[b]
A.S. Allal[c]
B. Faidutti[b]
W. Lehmann[a]

[a] Department of Otolaryngology Head and Neck Surgery,
[b] Clinic of Cardiovascular Surgery, Department of Surgery, and
[c] Division of Radiation Oncology, Geneva University Hospital, Geneva, Switzerland

Key Words
Squamous cell carcinoma
Head and neck cancer
Cervical nodal metastasis
Carotid artery
Vascular reconstruction, complications

Abstract

From 1972 to 1991, 7 patients with advanced cancer of the head and neck and nodal metastasis with capsular rupture underwent radical neck dissection and sacrifice of the carotid artery. Vascular reconstruction was performed with either an autologous venous (8 cases) or arterial (1 case) graft. In all patients, the postoperative course was uneventful without neurologic complications. One patient is alive 4 years after the procedure. Six patients expired after a mean survival of 20 months. The indications for vascular reconstruction are discussed.

Introduction

The curative treatment of advanced carcinoma of the head and neck, associated with cervical node metastasis of >3 cm diameter or capsular rupture, usually involves a wide surgical resection of the primary tumor and a radical neck dissection followed by postoperative radiotherapy [1]. Sometimes the tumor invades the carotid artery and, in these cases, neck dissection should be associated with resection of the carotid artery. These vascular sacrifices can lead to serious neurologic complications due to cerebral ischemia [2]. We report our experience with 7 cases of carotid reconstruction, and analyze our results in light of the relevant literature.

Patients and Methods

Between 1972 and 1991, seven patients underwent a radical neck dissection with resection of the carotid artery and vascular reconstruction by a venous graft. Six patients had cervical lymph node metastases of a squamous cell carcinoma originating from the upper aero-digestive tract, and 1 patient had cervical lymph node metastasis from an unknown primary. All patients were male, with an average age of 56 years (range 44–69 years).

Sacrifice of the internal carotid artery was performed in all cases because of its cancer involvement. In 4 patients, cervical recurrence was noted after full surgical and radiotherapeutic treatment. The delay between the recurrence and the original treatment was: 11 months after hemiglossectomy and homolateral radical neck dissection; 14 months after radical neck dissection and lingual radioactive implants; 15 months after total laryngectomy and selective bilateral neck dissection of nodal groups II–IV, and 34 months after partial glossectomy and homolateral supraomohyoid selective neck dissection in a patient who had undergone horizontal supraglottic laryngectomy and contralateral radical neck dissection 5 years previously. In 3 cases, the carotid artery was resected during the initial surgical treatment. Two of these presented with cervical metastases of >6 cm in diameter from an unknown primary in 1 case and in relation to a tonsillar squamous cell carcinoma in the other. The last patient presented a large piriform sinus carcinoma with significant neck extension infiltrating the carotid artery, without palpable lymphadenopathy. These last 3 patients underwent postoperative radiation therapy after vascular grafting.

Arteriography was performed preoperatively in all the cases in order to study the permeability of the circle of Willis. A graft using the greater saphenous vein was used four times, the cephalic vein in

KARGER
Fax +41 61 306 12 34
E-Mail karger@karger.ch
www.karger.com

0301–1569/98/0602–0108$15.00/0

This article is also accessible online at:
http://BioMedNet.com/karger

Prof. Willy Lehmann
Department of Otolaryngology Head and Neck Surgery, Geneva University Hospital
24, rue Micheli-du-Crest
CH–1211 Geneva 14 (Switzerland)
Tel. +41 (022) 372 8237, Fax +41 (022) 372 8240