

Carcinoma of the posterior pharyngeal wall - larynx preservation with the radial forearm flap or transoral resection

Helmut Steinhart and H. Iro

ENT-Department University of the Saarland Homburg/Saar, Germany

In a series of 15 patients with advanced (T2 and T4) tumors of the posterior hypopharyngeal wall, we tried to preserve the larynx during surgical therapy. Four patients with T2 tumors and with limited invasion of the lateral pharyngeal wall were resected transorally under microscopic control. In 9 cases, the access to the pharynx was done with lateral pharyngotomy and the pharynx was reconstructed in 8 cases with a radial forearm flap and in one case with a jejunal transplant. Two patients preferred radiotherapy or combined chemo-radiotherapy. One patient died after transoral tumor resection due to osteomyelitis of the cervical vertebral spine. The other three patients of this group learned to swallow within the period of four months. Three months after the reconstruction of the posterior pharyngeal wall with free flaps, 7 patients were able to swallow without aspiration. One patient needed 4 month to swallow without aspiration. One year after the reconstruction, one patient still needs tracheotomy because of aspiration problems. Surgical resection of advanced tumors of the posterior pharyngeal wall is possible without laryngectomy. The reconstruction with the radial forearm flap is preferred for T4 tumors with extension to the lateral pharyngeal areas and transoral resection under microscopic control is useful for T2 tumors.

Key words: hypopharyngeal neoplasms; pharyngectomy

Introduction

Surgical treatment of T1 and T2 tumors of the posterior pharyngeal wall is usually possible with transoral microscopic resection.¹ Advanced tumors show involvement of the oesophagus and extension to the lateral parts of the pharynx. So, due to functional problems, laryngectomy was usual after surgical therapy.² We tried to evaluate surgical therapy (transoral microscopic resection or reconstruction with radial forearm flap) in a series of 15 patients with advanced carcinoma of the posterior pharyngeal wall with the intention to combine radical tumor resection with larynx preservation.

Material and methods

Between 1993 and 1997, 15 patients with T2 (N=8) and T4 (N=7) carcinoma of the posterior hypopharyngeal wall were treated at our institution.

Correspondence to: Dr. Helmut Steinhart, Mareinstrasse 18, 66424 Homburg-Schwarzenacker, Germany.

UDC: 616.327.4-006.6-089

Tumor staging was done according to the TNM classification, 1987.

Two different surgical treatment options were used; the decision depended on the extension of the carcinomas. In cases where lateral pharyngeal walls or the oesophagus were involved by tumorous growth, reconstruction with free flaps was performed, and in cases of smaller tumors without extension in the above mentioned structures, transoral resection was used.

1. Transoral microscopically controlled resection (4 patients, all with T2 tumors and with limited invasion of the posterior pharyngeal wall):

- transoral resection
- percutaneous endoscopic gastrostomy (PEG)
- bilateral neck dissection 3 weeks after transoral resection
- postoperative radiotherapy.

2. Free flap reconstruction of the posterior pharyngeal wall after lateral pharyngotomy (9 patients):

- lateral pharyngotomy; bilateral neck dissection and tracheotomy

- reconstruction with microvascular reanastomosed free flap (radial forearm flap or jejunal flap)
- postoperative radiotherapy
- PEG, if swallowing function is not restored over a longer period.

Two out of 15 patients preferred radiotherapy or combined chemo-radiotherapy.

Results

Complications

One patient with transoral tumor resection developed an osteomyelitis of the cervical vertebral spine during postoperative radiotherapy and died a few days later. During lateral pharyngotomy, the superior laryngeal nerve on the tumor side could not be preserved in one case.

Functional outcome

Three weeks after transoral tumor resection, two patients showed sufficient swallowing function. In one patient, pharyngeal stenosis developed and, 5 months postoperatively, he is still unable to swallow satisfactorily.

In the group of patients with free flap reconstruction, 7 patients were able to swallow sufficiently three months after the operation. One patient needed a percutaneous endoscopic gastrostomy over a period of four months before he could swallow without aspiration, and one patient still has a tracheostoma for mild aspiration 12 months after operation.

Discussion and conclusions

There are a few reports on larynx preservation after surgical therapy of advanced carcinoma of the posterior pharyngeal wall.^{3,6} We tried to combine surgical treatment of these carcinomas with optimal functional rehabilitation. The most impor-

tant factors in this regard are the preservation of the larynx and the ability to swallow without aspiration. Transoral resection is preferred for smaller tumors without extension to the lateral parts of the pharynx and without involvement of the oesophagus. The reconstruction of the posterior pharyngeal wall with the radial forearm flap allows the resection of advanced carcinomas with acceptable functional outcome. For carcinomas extending from the nasopharynx to the oesophagus, the jejunal flap is a further option to reconstruct the resection defect.

Acknowledgment

This work was supported by Johannes und Frieda Marohn Stiftung, Erlangen, Germany.

References

1. Steiner W. Therapie des Hypopharynxkarzinoms. Teil III: Das Konzept der minimal invasiven Therapie von Karzinomen des oberen Aerodigestivtraktes unter besonderer Berücksichtigung des Hypopharynxkarzinoms und der transoralen Lasermikrochirurgie. *HNO* 1994; **42**: 104-12.
2. Harrison DFN. Surgical management of cancer of the hypopharynx and cervical oesophagus. *Br J Surg* 1969; **56**: 95-103.
3. Barzan L, Comoretto R. Radial forearm flap with microvascular anastomoses for reconstruction of the posterior pharyngeal wall. *Acta Otorhinol* 1991; **11**: 111-6.
4. Jones AS, Steel PM. Squamous carcinoma of the posterior pharyngeal wall. *Clin Otolaryngol* 1991; **16**: 462-5.
5. McNeill R. Surgical management of carcinoma of the posterior pharyngeal wall. *Head Neck* 1981; **3**: 389-94.
6. Spiro RH, Kelly J, Vega AL, Harrison LB, Strong EW. Squamous carcinoma of the posterior pharyngeal wall. *Am J Surg* 1990; **160**: 420-3.