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Primary temporal bone squamous cell carcinoma with intracranial extension

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Dear Editor,

Primary temporal bone tumors constitute less than 0.2% of all head and neck tumors. Over 85% of these tumors are squamous cell carcinomas (1). The first known case was reported in 1775 and partial surgical resection of the temporal bone was first made in 1954 (2). Primary treatment is surgical resection. Due to the heterogeneity of the tumor location no standard treatment algorithm can be formed. There are few case series or reports in the literature. Here we present a case of temporal bone squamous cell carcinoma.

A 57 year-old woman was treated with diagnosis of chronic otitis media. CT and MR images showed right mastoiditis and surgery was planned. Intraoperative frozen section pathology was reported as squamous cell carcinoma and a mastoidectomy and tympanoplasty was performed. Pathology result showed squamous cell carcinoma with extension to the external ear canal. Lymph node involvement and distant metastases were not dedected at PET-CT. Adjuvant radiotherapy and concurrent chemotherapy were scheduled for the patient in view of the macroscopic residual tumor. Tumors originating from temporal bone are locally aggressive and distant metastases are rare. Lymph node metastases in early stage tumors are unlikely but 10-20% are seen at an advanced stage. Etiological factors are difficult to determine. It is known that chronic infections can cause dysplasia and squamous cell metaplasia. Some authors suggest perioperative radiotherapy to reduce morbidity caused by radical surgery (3). Squamous cell carcinoma is not highly agressive compared to other malignant tumors of this anatomical site. The anatomic spreading pattern is described in considerable detail in the series by Leonetti *et al.* (4). Radiotherapy after surgery is recommended to increase local control rates (5). But results show adjuvant radiotherapy has a limited contribution to local control. This might be related with the high macroscopic residual tumor rates reported in these studies. The aim is to ensure eradication of the tumor and to reduce surgical morbidity. Probability of total resection might increase with neoadjuvant chemoradiotherapy. Howewer, there are no studies showing the contribution of chemotherapy. Radiosensitizing effect of concurrent chemotherapy with radiotherapy should be considered. Neoadjuvant chemoradiotherapy may reduce the tumor burden and increase the chance of a cure.

Due to late diagnosis, a high tumor burden is seen in temporal bone tumors and with the help of anatomical structures a rapid propagation occurs. Probability of distant metastases and regional lymph node spreading is low. This points to aggressive local therapies. It is difficult to draw up a standard therapy scheme and various treatment approaches exist mostly due to late diagnosis and the spread pattern. Hence recommended approach is postoperative or perioperative neoadjuvant radiotherapy and/or chemotherapy, designed specially for each patient.

References

1. Ross DA, Sasaki CT. Cancer of the Ear and Temporal Bone. In: Myers EN, Suen JY, eds. Cancer of the Head and Neck. Philadelphia, WB Saunders 1996: 586-97.
2. Moffat DA, Wagstaff SA, Hardy DG. The outcome of radical

surgery and postoperative radiotherapy for squamous carcinoma of the temporal bone. Laryngoscope 2005; 115: 341-7.
3. Zhang B, Tu G, Xu G, *et al.* Squamous cell carcinoma of temporal bone: reported on 33 patients. Head Neck 1999; 21: 461-6.
4. Leonetti JP, Smith PG, Kletzker GR. Invasion patterns of advanced temporal bone malignancies. Am J Otol 1996; 17: 438-42.
5. Chen WY, Kuo SH, Chen YH, *et al.* Postoperative intensity-modulated radiotherapy for squamous cell carcinoma of the external auditory canal and middle ear: treatment outcomes, marginal misses, and perspective on target delineation. Int J Radiat Oncol Biol Phys 2012; 82: 1485-93.

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