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Clinical evaluation of Lugol's iodine staining in the treatment of stage I-II squamous cell carcinoma of the tongue.

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Abstract

Oral squamous cell carcinoma (OSCC) is often surrounded by epithelial dysplasia; leaving it unresected can result in local recurrence. Staining with Lugol's iodine solution detects epithelial dysplasia in oral mucosa, but whether it decreases local recurrence after OSCC surgery is unknown. This study investigated local recurrence rates in patients with early tongue cancer who underwent surgery using Lugol's staining. 93 patients with T1-2N0 tongue SCC underwent partial glossectomy using Lugol's staining during surgery. Resection was performed at least 5mm from the margin of the unstained area. Patients were investigated retrospectively for local recurrence status. Postoperative histology revealed negative surgical margins for SCC or epithelial dysplasia in 81 patients, close margins for SCC in 5, positive margins for mild epithelial dysplasia in 6, and a positive margin for SCC in one. Those with a positive or a close margin for SCC underwent additional resection 2-4 weeks after surgery; one was proved histologically to have residual SCC. No patients developed local recurrence, but 2 died of neck metastasis and 2 of distant metastasis. The 5-year disease specific survival rate was 93.8%. Lugol's staining during surgery can reduce local recurrence and improve survival in patients with early tongue SCC.

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