Imaging Findings of Lacrimal Sac Tumors

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Purpose
Dacryocystitis is a common disease occurring at the site of the lacrimal sac. However, malignant lacrimal sac tumors are believed to be very rare. The purpose of our study was to evaluate the clinical information, CT and MR findings of the patients with lacrimal sac tumors retrospectively, in order to differentiate benign tumors from malignant tumors.

Materials & Methods
We looked at 25 cases of patients with lacrimal sac tumors and who complained of epiphora or lacrimal sac swelling from April 1998 to August 2002 in The Seirei General Hospital. There were nine males and 16 females, ranging from 26 to 87 years old. They underwent CT or MR examinations for the purpose of exploring the presence or absence of the lesion at the lacrimal sac or nasolacrimal duct. Each patient’s CT or MR images showed at least one lacrimal sac tumor. In total 26 lesions were identified. Malignant lacrimal sac tumors in this study included one mucoepidermoid tumor, one malignant melanoma, two malignant lymphoma, and one basal cell carcinoma. The remaining 21 benign lesions included 18 dacryocystitis, one hemangioma, one postoperative maxillary cyst and swelling of the medial angle of the eye caused by contusion. Clinical information was obtained from the medical records and two radiologists evaluated the findings of CT and MR images without knowledge of the patients’ clinical status.

Results
Twenty-four percent of the patients with dacryocystitis suffered from excretion of pus from the lacrimal punctum. On CT images 67% of dacryocystitis showed cyst-like masses having low density components in them with slightly hyperdense peripheral rims. All malignant lacrimal sac tumors in this study were solid tumors. Only the malignant melanoma revealed high signal intensity on T1-weighted images. In all other cases there was some overlapping of the signal intensity on the MR images between benign tumors and malignant tumors.

Conclusion
Patients with dacryocystitis often complained of inflammation around the lacrimal sac. In our study dacryocystitis usually showed cystic masses whereas malignant lacrimal sac
tumors always demonstrated solid masses. In such cases, contrast-enhanced examinations should be recommended. MR findings showed almost no specific differences between benign and malignant tumors, except for malignant melanoma. Around 20% of all lacrimal sac tumors in this study were malignant.

References