

Lacrimal gland lesions: the "lateral wedge" sign

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Objective: To retrospectively review the CT or MRI imaging for 116 patients with epithelial malignancy, lymphoma or inflammation arising within the lacrimal gland. The pattern of growth in relation to the lateral rectus was evaluated, with particular attention to the occurrence of a "lateral wedge" configuration and its relationship to malignancy.

Methods: A masked retrospective evaluation of diagnostic images was performed by a single operator and the lateral, superior and supero-lateral morphology was analysed for each lesion. Three histologically-confirmed groups were studied -- primary epithelial malignancy (39 patients), lacrimal gland lymphoma (37 patients) and dacryoadenitis (40 patients). Statistical analysis used Chi-square testing and estimates of sensitivity and specificity.

Results: The "lateral wedge" sign was present in 15/39 (39%) patients with carcinomas, 11/37 (30%) with lymphomas and 6/40 (15%) with dacryoadenitis. The "lateral wedge" sign is significantly more common with lacrimal gland malignancy (26/76 cases; 34%) than with inflammatory lesions (6/40 cases; 15%) ($\chi^2 = 4.84$, $p=0.028$). Based on this series, the estimated sensitivity for the "lateral wedge" as a sign in lacrimal gland malignancy is 34.2%, and the specificity 85%.

Conclusion: Whilst not exclusive to malignancy, there would appear to be a significant tendency for malignant lacrimal gland disease to grow posteriorly within the extraconal space. This pattern of spread leads to the characteristic "lateral wedge" sign which, if taken with other radiological signs, should alert the clinician to the likelihood of lacrimal gland malignancy.