SKIN CANCER (OTHER THAN MELANOMA)

NONINVASIVE RADIOLOGIC IMAGING OF CUTANEOUS SQUAMOUS CELL CARCINOMA: A SYSTEMATIC REVIEW

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Introduction: Cutaneous squamous cell carcinoma (SCC) is frequently managed by Mohs surgery, and most cases do not require radiologic imaging. However, exact imaging guidelines for SCC are unknown.

Objective: This systematic review was performed to help construct guidelines for the noninvasive imaging of SCCs.

Materials and Methods: A search was performed on PubMed/Medline and Congress on February 1, 2019 with all permutations and MeSH terms of cutaneous SCC combined with imaging, radiology, CT, PET-CT, ultrasound, and MRI, yielding 1,784 articles in English. Articles not germane to imaging of cutaneous SCC were excluded. Full text review of the remaining 674 articles was performed to quantify the role of imaging and the modality utilized.

Results: Cases of palpable lymphadenopathy and metastasis should undergo imaging. Tumors with more than one high-risk feature should also undergo imaging: size over 2cm, poor differentiation, invasion beyond fat, perineural invasion of 0.1mm, and location on the ear, temple, or anogenital region. Recurrent tumors and tumors with extracapsular extension or positive margins despite surgery should undergo imaging.
Lymph node evaluation can be performed via ultrasound, CT, MRI or PET-CT. Data comparing these modalities are mixed and the imaging modality of choice remains unknown. Invasion of hard structures such as bone is best evaluated with CT. MRI is preferred for determination of perineural invasion and extent of soft tissue involvement. PET-CT is preferred for evaluation of known or suspected metastatic disease.

Conclusion: Much remains unknown about the utility, outcomes, and role of imaging in cutaneous SCC. Nonetheless, ultrasound, CT, MRI, and PET-CT can be considered in the evaluation and management of disease. High-risk tumors should undergo imaging with the modality appropriate for the anatomic entity and region of interest. Multiple modalities may be required, and a radiologist should be involved should the role of imaging be unclear.