Wednesday 12 September 2018

Breast imaging workshop

09:30–10:00

An update on image-guided biopsy techniques and future impact

Dr Eleanor Cornford, Gloucestershire Hospitals NHS Foundation Trust

Learning points

For stereotactic-guided biopsies, vacuum-assisted biopsy under stages disease less than half as often as conventional core biopsy.

For stereotactic guided and digital breast tomosynthesis (DBT)-guided biopsies, use of a lateral arm device allows access to difficult areas and less obscuring of target lesion.

Marker clip insertion is important:
1. To confirm the correct area has been sampled
2. For lesions which could be difficult to identify if subsequent excision biopsy is required
3. When multiple areas have been biopsied to mark the relevant sites.

Approximately 7% of screen-detected breast lesions are diagnosed as B3. This is a heterogeneous group with upgrade rates ranging from <2–40%. New guidelines advocating the increased use of vacuum biopsy in this group should reduce the benign open biopsy rate.

References

WBG Sanderink, RM Mann. Advances in breast intervention: where are we now and where should we be? Clin Radiol 2018; 73: 724–734.


Is staging of the axilla still clinically relevant in this modern era?

Miss Karina Cox, Maidstone and Tunbridge Wells NHS Trust

Learning points

The identification of axillary lymph node (LN) metastases in patients with invasive breast cancer still provides information that is used to guide adjuvant treatment decisions. However, anatomic staging of breast cancer is likely to become less relevant in the future as the use of genomic and molecular assays increases and clinicians use updated algorithms to predict response to systemic treatment.

The long-term results of the ACOSOG Z011 trial have challenged the practice of surgically removing all malignant axillary lymph nodes. Patients with T1/T2 tumours having breast-conserving surgery and whole-breast radiotherapy with sentinel lymph node (SLN) metastases found after sentinel lymph node excision (SLNE) were randomised to a completion axillary lymph node dissection (ALND) or systemic adjuvant treatment only. At five and ten years, the overall survival, disease-free survival and local recurrence rate in the axilla was very low with no difference between the groups despite the fact that 27.3% of patients in the ALND arm had further lymph node metastases retrieved at the second operation.

The identification of patients with clinically significant high-volume axillary nodal disease remains clinically relevant as they are likely to benefit from tumour de-bulking with ALND and nodal irradiation or may be suitable for neo-adjuvant systemic therapy.

Appropriate axillary staging after neo-adjuvant systemic therapy is the subject of intense debate and current research interest. Many patients will achieve a pathological complete response in the axilla but SLNE performed after treatment (if nodal metastases were identified at diagnosis) has an unacceptably high false-negative rate (>10%). Efforts to optimise the SLNE include ensuring that three SLN are retrieved. A full ALND may be avoided by using a targeted approach with marking of malignant LN pre-treatment. However, the drawback to all these approaches is the lack of long-term outcomes and clinical trials are needed.

Ultrasound-based technologies offer the promise of a robust and reproducible test to image axillary LN and reliably identify nodal metastases. Innovations using microbubble contrast agents, ultrafast ultrasound and super-resolution imaging may revolutionise axillary staging for individual patients.

References

Giuliano AE, Ballman KV, McCall L et al. Effect of axillary dissection vs no axillary dissection on 10-year overall survival survival among women with invasive breast cancer and sentinel
node metastasis: the ACOSOG Z0011 (Alliance) randomized clinical trial. JAMA 2017; 318: 918–926.


Which cohort of women should have a staging computed tomography (CT) scan when diagnosed with breast cancer?

Professor Iain Lyburn, Gloucestershire Hospitals NHS Foundation Trust

Learning points

Distant disease from breast cancer demonstrable by imaging at time of initial diagnosis is uncommon (4–6%).

Factors such as tumour size, nodal involvement, histologic grade and hormone receptor status influence the occurrence and progression of breast cancer metastasis.

With decreasing frequency, sites of metastatic disease include bone, liver, lung and brain.

Guidelines and practice vary, however, generally it is agreed that whole-body staging is appropriate with T3 tumours (≥5cm) or with ≥4 pathologically suspicious axillary nodes on clinical assessment/localised imaging.

When staging is required contrasted-enhanced CT incorporating the supraclavicular fossae to femoral shafts is appropriate. Isotope bone scanning is not required in addition.

References


