

Computed Tomography Guided Bone Biopsies: Experience at an Australian Metropolitan Hospital

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Abstract : Percutaneous CT guided biopsies provide a fast, minimally invasive, cost effective and safe method for obtaining tissue for histopathology and culture. Standards for diagnostic yield vary depending on whether the tissue is being obtained for histopathology or culture. We present a retrospective audit from Western Health in Melbourne Australia over a 12-month period which aimed to determine the diagnostic yield, technical success and complication rate for CT guided bone biopsies and identify factors affecting these results. The digital imaging storage program (Synapse Picture Archiving and Communication System - Fujifilm Australia) was analysed with key word searches from October 2015 to October 2016. Nineteen CT guided bone biopsies were performed during this time. The most common referring unit was oncology, work up imaging included CT, MRI, bone scan and PET scan. The complication rate was 0%, overall diagnostic yield was 74% with a technical success of 95%. When performing biopsies for histologic analysis diagnostic yield was 85% and when performing biopsies for bacterial culture diagnostic yield was 60%. There was no significant relationship identified between size of lesion, distance of lesion to skin, lesion appearance on CT, the number of samples taken or gauge of needle to diagnostic yield or technical success. CT guided bone biopsy at Western Health meets the standard reported at other major clinical centres for technical success and safety. It is a useful investigation in identification of primary malignancy in distal bone metastases.

Keywords : bone biopsy, computed tomography, core biopsy, histopathology

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