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Breast Percutaneous Cryoablation in bone metastatic cancer patients

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Purpose: The aim was to evaluate the safety and efficacy of PCA as local therapy for patients with breast carcinomas and bone metastases.

Methods and Materials: PCA was used to treat fifteen breast lesions, mean size 2,4 (range 0,8-6,7 cm) in thirteen consecutive patients, mean age 52 (36-81) with core-needle biopsy-proven breast carcinoma and bone metastases. 11 patients had one lesion and two patients had 2 lesions. The tumour and surrounding breast tissue were ablated with percutaneous CT-guided CRA under local anaesthesia and mild conscious sedation. Cryoablation consisted of 2 cycles each of 10 minutes of freezing followed by a 4-min active thawing phase and a 4-min passive thawing phase for each one. Ten patients underwent one PCA session and two patients had 2 PCA sessions for different lesions. One patient was treated with two sessions for the same lesion.

Results: All PCA sessions were successfully completed and all breast tumours were ablated. Morbidity consists in transient and mild ecchymotic changes and post-procedural oedema seen in six cases and alteration in skin pigmentation seen at the point of insertion of the cryoprobes in other two cases. The therapeutic outcomes were evaluated by contrast-enhanced CT or MRI at 1-, 3- and 6-month interval. The absence of contrast enhancement by the tumour on CT or MR image was considered complete tumour necrosis. During the mean follow-up of 11 months (3- 24 months) none of the patients had shown local relapses. A patient died because of liver tumour progression after 16 months.

Conclusion: Our preliminary results suggest that cryoablation of breast carcinomas and bone metastases is a well-tolerated, safe and effective procedure. However, further follow up and a prospective controlled trial is necessary to validate the procedure.

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