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Robot-assisted radiofrequency ablation of primary and secondary liver tumours: early experience

Abstract

Objective

Computed tomography (CT)-compatible robots, both commercial and research-based, have been developed with the intention of increasing the accuracy of needle placement and potentially improving the outcomes of therapies in addition to reducing clinical staff and patient exposure to radiation during CT fluoroscopy. In the case of highly inaccessible lesions that require multiple plane angulations, robotically assisted needles may improve biopsy access and targeted drug delivery therapy by avoidance of the straight line path of normal linear needles.

Methods

We report our preliminary experience of performing radiofrequency ablation of the liver using a robotic-assisted CT guidance system on 11 patients (17 lesions).

Results/Conclusion

Robotic-assisted planning and needle placement appears to have high accuracy, is technically easier than the non-robotic-assisted procedure, and involves a significantly lower radiation dose to both patient and support staff.

Key Points

- *An early experience of robotic-assisted radiofrequency ablation is reported*
- *Robotic-assisted RFA improves accuracy of hepatic lesion targeting*
- *Robotic-assisted RFA makes the procedure technically easier with significant lower radiation dose*





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Keywords

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