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Clinical Experiences with Extracorporeal Ultrasound-guided High-intensity Focused Ultrasound Treatment for Cancer Patients

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Noninvasive, image-guided tumour thermal ablation with extracorporeal high-intensity focused ultrasound (HIFU) has received increasing interest in the treatment of patients with solid tumours. Since December 1997, an extracorporeal ultrasound-guided HIFU system (Mode-JC, Haifu Technology Co. Ltd., Chongqing, China) has been used to treat approximately 10,000 patients with solid tumours in China, including those of liver, breast, bone, kidney, pancreas, soft tissue, and uterus. The same device has been recently introduced into the UK, Italy, Japan and South Korea, and so far, more than 1,000 patients have received HIFU treatment outside China. The purpose of this article is to introduce our clinical experiences using extracorporeal, ultrasound-guided HIFU ablation for solid tumours. Five-year follow-up data are observed in patients with primary liver cancer, breast cancer, and osteosarcoma. Among patients treated with HIFU, an extremely low major complication rate is observed. In conclusion, our clinical studies indicate that HIFU treatment is a safe, effective, and feasible modality in the treatment of cancer patients.