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Specialty : Abdomen
Lecture Title : Histotripsy: Clinical Outcomes and Future Directions

Histotripsy is an emerging non-invasive, non-thermal, non-ionizing treatment technique which utilizes focused ultrasound to create mechanical tissue destruction at the focal point. The focused ultrasound transducer is combined with a co-axially aligned diagnostic ultrasound transducer and is mounted on a robotic arm to allow treatment of a planned volume of tissue. This lecture will cover development supporting initial clinic trials, results of the trials that lead to US FDA approval for the treatment of liver tumors in October 2023, and current clinical use following approval. Future approaches and developing techniques will also be covered.

Outline:

1. Introduction
2. Preclinical summary of liver histotripsy
   a. Translating technique to humans
   b. Immune effects in animal models
3. Trials
   a. First in human trial of hepatic histotripsy- Theresa trial
   b. HOPE4Liver trials
4. Early Clinical Use
5. Emerging indications
   a. Kidney
   b. Pancreas
6. Technical developments
   a. Cone-beam CT/CT guidance
   b. Beam path evaluation and send/receive capabilities
7. Summary