Focused Ultrasound Symposium Showcases Latest Advances in Noninvasive Therapy for Brain Disorders, Cancer and Other Major Diseases

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Record Number of Attendees and Presentations

Charlottesville, VA -- (ReleaseWire) -- 10/31/2018 -- The 6th International Symposium on Focused Ultrasound was held this past week in Reston, Virginia, demonstrating the field's immense progress and the groundbreaking technology's potential to transform medical therapy worldwide. More than 450 clinicians, scientists, government employees and industry representatives from around the globe gathered October 21–25 to hear 250 presentations on the latest research, including key clinical milestones for neurological indications such as brain tumors, epilepsy, Parkinson's disease, Alzheimer's disease, OCD, and depression, as well as recent progress in veterinary medicine.

"Every other year this meeting brings together hundreds of people from all areas of the globe who share a vision that focused ultrasound will – not might – improve the lives of millions of people around the world with serious medical disorders, and each time we meet we are closer to that goal," said Neal F. Kassell, MD, founder and chairman of the Focused Ultrasound Foundation. "Since our first Symposium 10 years ago we have seen the technology, and the field, grow from single digits across the board to now: 100 clinical indications and counting, 18 different mechanisms of action, more than 20 worldwide approvals, 550 commercial treatment sites, and at least 100,000 patients treated. This astonishing progress is the result of the hard work, dedication and innovation of those who gathered in Reston this past week, and we are proud to provide a forum for sharing knowledge and fostering collaboration among this group of pioneers and scholars of focused ultrasound."

Symposium Highlights

Through plenary sessions, panel discussions, poster presentations and technical exhibits, researchers shared the latest data on focused ultrasound applications for the brain, cancer immunotherapy, liver, lung, veterinary medicine, and more. Highlights include:

- Brain: Taiwan-based NaviFUS has developed a novel focused ultrasound system guided by neuro-navigation which obviates the need for MR scanning during treatment. It features a multi-channel phased array with focal steering from a commercially available navigation system. The presentation explained the concept of neuro-navigation and shared data on the system's design, performance, preclinical validation and potential clinical applications. For more information: NaviFUS: A Neuronavigation-Guided Focused Ultrasound Device for Clinical Transcranial Brain Application

- Cancer Immunotherapy: Physicians at the University of Virginia have initiated the first US clinical trial combining a cancer immunotherapy drug with focused ultrasound. Led by Dr. Patrick Dillon, the pilot trial combines pembrolizumab therapy with focused ultrasound in an effort to elicit immune stimulation and antitumor effects at local ablation sites and distant non-treated sites. The presentation included preliminary data
on the first five patients enrolled in the trial. For more information: Focused Ultrasound Therapy Combined with Pembrolizumab in Metastatic Breast Cancer
- Liver: Dr. Joan Vidal-Jove presented data using high-intensity focused ultrasound (HIFU) to treat 40 cases of primary and metastatic liver cancer at two hospitals in Barcelona (the HIFU Ablation Oncology Unit of Hospital University Mutua Terrassa and the Interventional Oncology group of Institute Khub's Comprehensive Tumor Center). This study included the first patients treated using histotripsy instead of thermal ablation. The presentation also discussed considerations for the role of hepatic tumor ablation in the present oncology environment. For more information: Focused Ultrasound with Ultrasound Guidance in Liver Cancer as Suitable Option for Lesions in Difficult Locations
- Lung: A research group in Gera, Germany, led by Dr. Frank Wolfram has pioneered a focused ultrasound technique for treating lung cancer that is soon to be translated to the clinical setting. In anticipation of the upcoming clinical trial, the team reviewed data from 200 patients with inoperable lung tumors to determine the percentage that might be possible to access with focused ultrasound. For more information: Towards FUS for Lung Cancer, Which Patient Group with Primary or Secondary Lung Cancer is Preferably Accessible?
- Veterinary Applications: The Oklahoma State University veterinary team led by Dr. Ashish Ranjan presented data from their experience treating tumors and non-healing wounds with focused ultrasound in dogs. They then compared the canine tumor types and sites with those in humans to suggest promising uses for focused ultrasound. For more information: Treating Solid Tumors and Non-healing Wounds in Veterinary Patients with Focused Ultrasound

A Symposium summary document will be made available in the coming weeks, and videos of the plenary sessions and special presentations will soon be available at www.fusfoundation.org.

About Focused Ultrasound
Focused ultrasound uses ultrasound energy guided by real-time imaging to treat tissue deep in the body without incisions or radiation. The fundamental principle is analogous to using a magnifying glass to focus beams of sunlight on a single point to burn a hole in a leaf. Where each individual beam passes through the tissue, there is no effect. But, at the focal point, the convergence of the multiple beams of focused ultrasound energy results in many important biological effects, creating the possibility of treating a variety of medical disorders. Focused ultrasound is approved in the United States to treat essential tremor, uterine fibroids, pain from bone metastases, and the prostate. Additional indications are approved outside of the US. The technology is in various stages of research and development for more than 100 diseases, including Alzheimer's disease, Parkinson's disease, hypertension, and tumors of the brain, liver, breast, and pancreas. For more information go to www.fusfoundation.org.

About the Focused Ultrasound Foundation
Based in Charlottesville, Virginia, the Focused Ultrasound Foundation is a tax-exempt, high-performance, entrepreneurial service organization with a global reach. The Foundation seeks to leverage its trusted third-party position through contributing financial and human resources to foster collaboration, to build knowledge and to streamline the process and overcome barriers. The Foundation is on the leading edge of the venture philanthropy and social entrepreneurship movements and has become a model of how donor funding can be used to bridge the gap between laboratory research and widespread patient treatment. The Foundation was recently included in Charity Navigator's list of America's 10 Best Medical Research Organizations.

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