FDA Approves Merit Medical's HiQuality Clinical Trial Protocol for the Treatment of Primary Liver Cancer

Principal Investigator **Michael Soulen, M.D.** at the University of Pennsylvania Medical Center, Professor of Radiology specializing in Interventional Radiology will direct the study. Active in the Society of Interventional Radiology (SIR), Dr. Soulen has served on the Executive Council, chaired the 1999 Annual Scientific Meeting, and acted as Director of Research Education for the SIR Foundation. He also serves on committees of the Radiological Society of North America (RSNA) and the American College of Radiology (ACR). Dr. Soulen chairs the steering committee of the World Conference of Interventional Oncology (WCIO). He is also an editorial board member and/or reviewer for numerous publications, including the Journal of Vascular and Interventional Radiology. He has published nearly100 peer-reviewed articles and more than 50 editorials, chapters and invited manuscripts.

Riccardo Lencioni, M.D., Associate Professor of Radiology, University of Pisa in Italy; Director, Division of Diagnostic Imaging and Intervention, Department of Hepatology and Liver Transplantation, Pisa University Hospital, will oversee central image review and tumor response assessment. He is Chairman, Membership Committee and a member of the Executive Committee of the Cardiovascular and Interventional Radiological Society of Europe (CIRSE); Chairman, Program Committee of the European Conference on Interventional Oncology (ECIO); and on the Steering Committee of the World Conference on Interventional Oncology (WCIO). Professor Lencioni is a founder of the International Liver Cancer Association (ILCA), and member of the Governing Board. He has received more than 40 international awards; authored 134 articles or editorials; is editor of seven books; and has served on the editorial board of *Cardiovascular and Interventional Radiology, Investigative Radiology, European Radiology, Journal of Hepatology, Journal of Interventional Oncology, and La Radiologia Medica.*

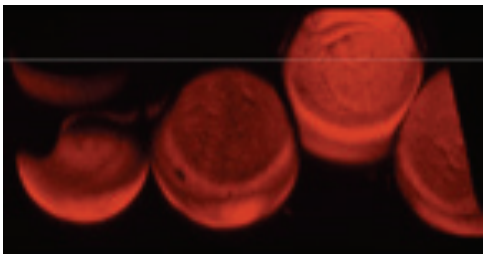
First large-scale multi-site U.S. study comparing doxorubicin-eluting QuadraSphere™ Microspheres to conventional chemoembolization

The Food and Drug Administration (FDA) has approved Merit Medical Systems, Inc.'s phase 3 clinical trial protocol to treat primary liver cancer with QuadraSphere™ Microspheres (hqTACE) for delivery of doxorubicin. The clinical trial will involve U.S. and international interventional radiologists who treat patients with localized, hepatocellular carcinoma (HCC), the most common form of liver cancer. The FDA action will result in the first phase 3 study in the U.S. comparing drug-eluting microspheres to conventional chemoembolization (cTACE) in the treatment of hepatocellular carcinoma. Currently in the U.S. there is no FDA approved embolic for the treatment of liver cancer.

QuadraSphere is indicated for embolization of hypervascular tumors and peripheral arteriovenous malformations. The identical product marketed in Europe as HepaSphere Microspheres™ has been CE-marked in the European Union since 2007 for embolization of HCC and hepatic metastases, with or without delivery of doxorubicin.

The phase 3 study is a prospective, randomized, blinded and controlled investigation of HepaSphere/QuadraSphere Microspheres for delivery of doxorubicin for the treatment of hepatocellular cancer. Known as the HiQuality Study (HepaSphere/QuadraSphere in Liver Cancer Treatment), the primary endpoint of the clinical trial is survival. Secondary endpoints include tumor response by mRECIST criteria, safety, resource utilization such as time in hospital, and adverse events. The study will enroll 500 patients and be conducted in 25 clinical sites in the U.S., Europe, South America, and Canada.

Dr. Riccardo Lencioni, who developed the guidelines for image acquisition and interpretation for the trial stated, "This



QuadraSphere loads doxorubicin throughout entire spherical volume

study meets the highest standards for clinical research in hepatocellular carcinoma, as recommended in Design and Endpoints of Clinical Trials in Hepatocellular Carcinoma, guidelines for clinical research in HCC by an expert panel convened by the American Association for the Study of Liver Disease, and published in the *Journal of the National Cancer Institute*. The design of the investigation is rigorous, and has been extensively reviewed by the FDA."

HiQuality Study Design

- Phase 3
- Multi-center, randomized, prospective
- U.S., Europe, South America, Canada
- HepaSphere/QuadraSphere to deliver doxorubicin (hqTACE) compared to cTACE with doxorubicin and particle PVA

Primary Endpoint

- Overall survival

Secondary Endpoints

- Objective tumor response by mRECIST criteria
- Overall adverse event rates
- Doxorubicin related adverse events
- Objective tumor response in the treated area
- Resource utilization

Recent presentations can be viewed at http://biosphere.onsite.tv/

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