CPSI Develops New Device to Treat Esophageal and Pancreatic Cancer

CPSI’s SCN cryoablation technology platform will provide an advanced, cost effective, minimally invasive treatment strategy for pancreatic, esophageal and other gastroenterological cancers.

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Owego, NY – In conjunction with National Esophageal Cancer awareness month, CPSI has announced the development of a next generation medical device designed to freeze cancer in situ (in place within the body), thereby destroying the tumor. CPSI’s SCN Platform has the potential to revolutionize the treatment of diseases ranging from pancreatic cancer, Barrett’s esophagus and esophageal cancer to cardiac arrhythmias, potentially impacting millions of patients annually worldwide. The SCN device converts liquid nitrogen (LN₂) to Supercritical Nitrogen (SCN) then, using a minimally invasive approach, delivers the cryogen via specialized cryoprobes to freeze a targeted tissue. CPSI, in conjunction with collaborators at Johns Hopkins Medical, have conducted a series of preliminary studies demonstrating the successful delivery of an ultra-cold (<-170°C), highly effective lethal insult (ablative dose) within a matter of minutes. Continued research and development efforts in esophageal cancer are also supported by a grant from the National Institutes of Health (NIH) Small Business Innovation Research (SBIR) program. With these results, the team is now focused on development of the SCN Platform for the treatment of several gastroenterological diseases, including esophageal and pancreatic cancer.

Discussing the SCN technology, Dr. John M. Baust (President, CPSI Biotech) stated “Our involvement in the field of cryoablation for years from both the cancer biology research and device development fronts, has allowed our team to see firsthand the potential for cryoablation to revolutionize the treatment of various cancers.” Baust continued, “Unfortunately, the use of cryo in GI and other areas has experienced limited growth due, in part, to technological limitations. We analyzed strengths and weaknesses of current devices and approaches in order to develop a next generation device to overcome these hurdles. Several areas of focus included decreasing procedure times and invasiveness, increasing efficacy and simplifying the procedure. Additionally, we looked to integrate modern cancer biology with cryogenic engineering to develop a better surgical tool for physicians to destroy cancer. This was coupled with working towards decreasing overall costs and increasing patient access, which is a major focus in healthcare today.”

These efforts resulted in the development of the SCN platform, a cutting edge cryoablation technology which overcomes today’s technology challenges and could position cryoablation as a first line treatment option. When asked of the potential impact of the SCN technology, Baust stated “the ability to quickly and controllably deliver an ultra-cold, highly powerful cryogenic insult to tissue targets in a minimally invasive procedure has the potential to change how we treat many diseases. The SCN platform allows for the rapid and effective freezing of tissues in areas which have traditionally been challenging, such as the pancreas. Our belief is that the patented
SCN technology will provide for a new cutting edge treatment option for the 10’s of millions of individuals in the US and worldwide who battle cancer annually. The SCN technology has also shown tremendous promise in the treatment of other diseases, including cardiac arrhythmias.”

With the development of this revolutionary technology, CPSI is now poised to embark on technology commercialization. Baust stated “the SCN technology represents an enabling platform technology which has a number of potential impact areas. To succeed in today’s regulatory landscape, companies must focus. To this end, a start-up company (GI Cryo, Inc.) has been formed focusing in the GI area for which we are actively seeking partners and investors to join our team to commercialize the SCN and other related technologies.” The market potential and impact of the SCN technology in the GI space is tremendous given the very low five year survival rates for pancreatic (<5%) and esophageal cancer (<15%). This translated to >300,000 and ~400,000 deaths annually worldwide from pancreatic and esophageal cancer, respectively. Estimates suggest that ~45% of these individuals could be treated with cryo, representing a current market potential of >$650 million.

Summarizing the potential of the SCN technology, Dr. Baust stated “As medicine continues to focus on individualized treatments, improved outcome, increased patient access coupled with reduced costs, the SCN platform should position cryoablation to emerge as a mainstream primary treatment option. This, in turn, would impact the lives of millions of patients and their families annually worldwide.” More information on cryoablation can be found on CPSI’s website at www.CPSIBiotech.com as well as on the American College of Cryosurgery website, www.ACCryosurgery.org.

About CPSI Biotech - CPSI Biotech, a private, integrative bio/medtech greenhouse company, develops and designs life science research products and cryo-medical devices for applications in cancer, cardiovascular disease treatments and cell therapy bioprocessing. Ongoing R&D and business development activities continue to produce innovative technologies, devices and intellectual property for commercialization, licensing or sales in support of diverse clinical and research applications. By leveraging the innovation, flexibility and R&D strengths of CPSI in combination with the development, commercialization, manufacturing and clinical expertise of partnering organizations, rapid and efficient product development is attainable.

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ability to commercialize developmental products, competition from existing and new products and procedures and CPSI’s ability to raise the capital that is required to accomplish the foregoing.

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