Junior Tech Report

Newsletter

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Editor's Comments:

We are excited to continue our coverage on Theralase Technologies Inc. The company has made significant progress in its goal to fight bladder cancer. Junior Tech Report has had the pleasure of interviewing President Roger Dumoulin-White.

Theralase Technologies Inc.
Healing at the Speed of Light
Trading Symbol:
TSX-V: TLT (US-OTCBB: TLTFF)
Outstanding Shares:
approx: 66 million
Current Price:
$0.32
Website:
www.theralase.com

theraLASE®
HEALING AT THE SPEED OF LIGHT®

Theralase Technology Inc.

Featured Company

JTR: I understand you had news on cancer destruction and memory response, can you elaborate?

RW: Research performed by Theralase in 2013 involved utilization of a subcutaneous animal model; whereby, 350,000 colon cancer cells were injected into a mouse's hind quarters beneath the skin. These cancer cells were allowed to proliferate until they formed a cancerous tumour of approximately 5 mm in diameter. The mice were divided into 2 groups, where half of the mice received no treatment intervention and half received an intra-tumour injection of our lead Photo Dynamic Compound (PDC) directly into the tumour allowing it to localize and uptake into the cancer cells for approximately 4 hours. The PDC infused cancerous tumour was then illuminated by green laser light of a set wavelength and power for approximately ½ hour. The results were that the mice who did not receive the treatment intervention were dead within 12 to 15 days. The mice that received the PDC treatment, a majority of the mice had their cancerous tumour completely destroyed. The mice who received a successful PDC treatment were monitored for 20 months and remained cancer free with no scarring (hence no destruction of healthy tissue only destruction of cancerous tissue) and had no cancer recurrence during this time period. As a comparison of life expectancy, 20 months of a mouse's life is approximately equivalent to 50 human years.

In the latest research performed in 2014, the mice who were successfully treated with the PDC treatment were re-injected with 350,000 colon cancer cells. 60% of these mice had no cancerous tumour regrowth. 40% had a small cancerous regrowth that was quickly destroyed by the mouse's immune system. This demonstrated a short-term immune-mediated (immune "memory response") tumour rejection.

These same mice were then re-injected with an additional 350,000 colon cancer cells, 10 months post PDT treatment. 100% of these mice had no cancerous tumour regrowth. This demonstrates a long term immune-mediated (immune "memory response") tumour rejection.

This research is considered a breakthrough in cancer research in that not only was the primary tumour completely destroyed, but it also suggests that the immune system of the animal was reprogrammed by the PDC treatment to recognize identical cancer cells and destroy them without further treatment intervention.

JTR: What are the company's next steps?

RW: Next steps for Theralase include completion of our preclinical research of the PDCs in the destruction of bladder cancer. Major milestones would include: completion of an orthotopic bladder cancer rat model (destroying bladder cancer in a rat), Good Manufacturing Practice (GMP) manufacture of our lead PDC, toxicity analysis of the PDC, completion of a bladder cancer clinical protocol, completion of a drug master file and finally pre Investigational New Drug (IND)

and IND meetings with Health Canada and the Food and Drug Administration (FDA) to obtain IND approval to commence enrolling patients for a Phase 1/2a bladder cancer clinical study in humans.

In early 2015, once IND approval has been received, Theralase would commence the clinical study enrolling approximately 30 subjects (15 in Canada and 15 in the US) to prove the safety, tolerability and initial efficacy of the PDC treatment in human bladder cancer patients.

JTR: When do you plan on having this in humans/human trials?

RW: 1Q2015 to commence a Phase 1/2a bladder cancer clinical trial in humans with data analyzed and submitted to the FDA for review by 4Q2015.

JTR How does mouse data translate to human data?

RW: Our PDCs are what is known in the industry as small molecules. Small molecules have the ability to enter a cancer cell and latch onto to one or more of the organelles, in our case our PDC latches onto the centromere of the DeoxyriboNucleic Acid (DNA) structure located in the nucleus of the cell. When light activated the PDC induces single and double helix breaks in the DNA, destroying the DNA and forcing the cancer cell though a natural cell death process, known as apoptosis. Mouse DNA is approximately 80 to 90% the same as humans; therefore, it would stand to reason that if we can obtain excellent cancer cell kill with virtually zero toxicity in mice, we have a very strong likelihood of achieving similar results in humans.

JTR: Are there any other catalysts/milestones

RW: The Company is launching the next generation therapeutic laser in 4Q2014 indicated for the elimination of pain, reduction of inflammation and accelerated tissue healing for a wide range of nerve, muscle and joint conditions, such as knee osteoarthritis, low back arthrosis and shoulder tendinitis. Theralase expects a significant increase in revenue from the launch of this state of the art patented technology.

JTR: Can you explain the technology further?

RW: Therapeutic lasers or cold lasers deliver light energy into tissue where light sensitive proteins called chromophores or cytochromes that exist in every cell of the body are able to transform this light into chemical energy that the body uses to accelerate its healing. There are 3 main cellular pathways that effect healing, the Adenosine TriPhosphate (ATP) pathway that accelerates tissue healing through production of the natural energy source of cells, the Nitric Oxide (NO) pathway that allows capillaries to grow in diameter and bring more blood, oxygen and fuel molecules to damaged tissue, while also allowing interstitial fluid (inflammation) to be reabsorbed and the Sodium / Potassium pathway that allows pain signals to be eliminated at source of the nerve cell eliminating pain. The Theralase technology is the most effective therapeutic laser is best-in-class in the world and is the only product on the market that activates all 3 known cellular pathways.

The new patented technology launching in 4Q2014, is able to perform all of this and also is able to deliver exact doses of laser energy to specific tissue targets further increasing the safety and efficacy of our technology, making it the best therapeutic laser technology in the world.

JTR: Comparing to the Rife therapy, how do you plan to succeed with your technology?

RW: In Rife technology, Dr. Rife used frequencies derived from his frequency generator. He was able to destroy all manner of disease organisms (including cancer related organisms) by merely 'tuning' the generator to the correct resonant frequency of these organisms. This technology would not be useful in the destruction of cancer in human applications, unless the frequency of a bladder cell was different than that of a bladder cancer cell, which I do not believe it is, as a bladder cancer cell has identically the same characteristics (and hence frequency) of a bladder cell,

except for variations in the DNA, which has rendered the bladder cancer cell incapable of dying when instructed to (apoptosis). The Theralase PDC technology is completely different in that it localizes to cancer cells and only when light activated does the PDC impart damage to the DNA of the cancer cell forcing it through apoptosis. This is an important distinction in the technologies that would render the Rife technology ineffective or potentially lethal on a human application and the Theralase PDC technology completely safe and effective in human application.

Thank you for your time Roger and we at Junior Tech Report look forward to continuing to report the exciting story of Theralase Technologies.

Disclosure: Junior Tech Report has been compensated to market Theralase Technologies Inc.

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