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EDITED TRANSCRIPT

SNCA.OQ - Leading BioSciences Inc, Seneca Biopharma, Inc. - M&A Call

EVENT DATE/TIME: DECEMBER 17, 2020 / 1:30PM GMT

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CONFERENCE CALL PARTICIPANTS

Corey Davis

PRESENTATION

Operator

Greetings, ladies and gentlemen, and welcome to the Leading BioSciences and Seneca merger conference call. (Operator Instructions) As a reminder, this conference is being recorded.

I would now like to turn the conference over to your host, Mr. Corey Davis, Investor Relations. Thank you. You may begin.

Corey Davis

Thanks, Melissa. Good morning, everyone, and welcome to this call. Before we begin, I'd like to draw your attention to the legal disclosure regarding forward-looking statements here on Slide 2, and remind everybody listening that the speakers on the call will be making forward-looking statements covered under the Private Securities Litigation Reform Act of 1995. These statements may involve risks and uncertainties that are described more fully in Seneca's and in Leading BioSciences' filings with the SEC, which are available on both companies' websites. I would also direct your attention to certain additional risks specific to the proposed transaction, which are described in further detail in today's press release.

Forward-looking statements represent the views of Leading BioSciences and Seneca only as of today, December 17, and should not be relied upon as representing our views as of any subsequent date. While the companies may elect to update forward-looking statements at some point in the future, they disclaim any obligation to do so even if their estimates or expectations change.

I'd also like to note that in connection with the proposed business combination we're announcing today, we will be filing with the SEC registration statement on Form S-4 containing a combined proxy statement prospectus. We encourage you to read it and the other relevant materials filed with the SEC because these documents have or will have important information about the proposed transaction.

Joining me on today's call are Dr. Tom Hallam, Chief Executive Officer of Leading BioSciences; and Dr. Ken Carter, Executive Chairman of Seneca.

And with that, I will turn the call over to Ken and Tom, with Ken to start.

Kenneth C. Carter - *Seneca Biopharma, Inc. - Executive Chairman & CEO*

Thank you, Corey. When I joined Seneca in January of 2019, the mandate from the Board was clear. They wanted me and the team to review the current programs and, if needed, transform the company to increase shareholder value. Since that time, the team has been focused on creating such value. I believe today's announcement of the merger between Leading BioSciences and Seneca represents such a value-creating event.

Over the past year, the Seneca team has reviewed a number of opportunities, and I feel that the Leading BioSciences' team and their differentiated technology are the best-of-breed. From now until the closing of the merger, the Seneca team will continue the company's out-licensing efforts with the goal of out-licensing Seneca's remaining assets and thereby creating additional value for Seneca shareholders.

I would now like to turn the call over to Tom Hallam, the CEO of Leading BioSciences, who will be leading the company upon closing of this merger.

Thomas Hallam - *Leading BioSciences Inc - CEO & Member of Scientific Advisory Board*

Thank you, Ken. Hello, everyone, and thank you for joining our call. Earlier today, we issued a news release announcing that Leading BioSciences and Seneca have agreed to merge to form Palisade Bio. Today, we'll be talking about the transaction and why we're extremely pleased with this transformative event for both companies and the stockholders.

First, I will briefly provide details about the structure and terms of the transaction. And then I'll focus today's presentation on an overview of Leading BioSciences' unique approach to targeting diseases arriving from the gastrointestinal tract and our lead drug candidate, LB1148. Then together, we'll open the call for questions.

As we noted, we have entered into a definitive merger agreement with Seneca to form Palisade Bio. We expect to close the merger by Q2 2021. This reverse merger with Seneca will provide a Nasdaq public listing that will allow for proper capitalization, liquidity and strategic visibility.

Leading BioSciences' executive team will continue to lead the merged company following the transaction. The expected pro forma ownership is 26.1% Seneca and 73.9% Leading BioSciences with a pro forma post-money valuation of $132.5 million. Concurrently, we'll receive $22.5 million in financing led by Altium Growth Fund, which provides sufficient cash runway to achieve key clinical and regulatory milestones. The merged company will be named Palisade Bio and will focus exclusively on gastrointestinal drug development for therapeutic protection of the intestinal epithelial barrier.

Our lead drug, LB1148, has shown 30% or more in clinical improvement and time to return of normal bowel function following surgery, and we expect to launch a pivotal Phase III study evaluating GI recovery in neonates undergoing open heart surgery in 2021. Our second asset, PB101, is currently in preclinical development for inflammatory bowel disease.

Leading BioSciences' management team, which has extensive experience in this space and a proven track record of success, will lead the merged company following this transaction.

Leading BioSciences' therapeutic focus is on pathologies caused by a lot of gastrointestinal epithelial barrier integrity and the resulting consequences to human health. We have developed an R&D platform technology to develop protease-targeted therapeutics. On this platform technology, we are creating a broad pipeline to treat complications from GI barrier disruption with proprietary formulations and GI protease-targeted therapeutics.

Our lead oral serine protease inhibitor is currently Phase III-ready with proven clinical benefits in multiple surgical studies. We expect to achieve several key clinical and regulatory milestones that will drive value creation over the next 12 to 18 months.

Palisade Bio will have 4 drug development programs focused on broad GI disorders and complications related to compromised GI epithelial barrier. With our lead drug candidate, LB1148, we are addressing 2 key indications. The first is return of bowel function following heart and GI surgery; and the second is prevention of postsurgical abdominal adhesions. For return of bowel function, which is a postoperative complication that it can extend hospital length of stay, we are starting a Phase III study for neonatal cardiovascular surgery and completing a Phase II GI surgery in adults. We are also -- we also have 3 earlier-stage programs, all focused on protease inhibition.

For today's call, we'll be focusing most of the attention on our late-stage LB1148 program. As I mentioned, there are 2 separate indications for LB1148. One is to accelerate return of postoperative GI function; and the second is to reduce postoperative abdominal adhesions.

After many different types of major surgery, the bowels can take a long time to recover and begin working again. In fact, it is this return of bowel function that is often a rate-limiting criteria in how quickly a patient is able to leave the hospital following surgery. If bowel function returns faster, patients can often leave the hospital sooner. The national average for hospital expenses per inpatient day is about $2,400. So by accelerating return of GI function, we hope to shorten a patient's hospital stay, which can lead to obvious and significant cost savings.

Data from 2 clinical studies suggest that LB1148 can lead to a potentially shorter hospital stay by allowing the GI tract to return to its normal function more quickly than otherwise would, a benefit we plan to expand upon with our pivotal Phase III program.

Before we dive into our clinical programs, I want to describe how postoperative complications can be driven by intestinal proteolytic activity. Normally, the intestinal mucosal barrier maintains these potent digestive enzymes within the lumen of the intestine. However, the barrier can be compromised as a result of injury, particularly injury related to surgery or hypoperfusion. This leads to an inflammatory cascade and subsequent damage to healthy tissue.

When a healthy intestinal mucosal barrier is compromised by either a physical or metabolic injury, it results in an escape or leakage of digestive enzymes, also called protease. These proteases seep into the intestinal tissue and the blood stream, driving a disruptive cascade of disease mechanisms, including an increase in proteolytic activity, microbiome imbalance, tissue damage and disruption in cell signaling. This creates a negative feedback loop that causes further intestinal damage and exacerbates the postoperative complications, such as delayed bowel function, adhesions and inflammation.

After GI and heart surgery, it takes time for intestines to recover and return to a normal function. Having that first bowel movement, no matter how small or how large is a critical step for patients to be able to leave the hospital after surgery. Escape of these rogue proteases also drives the formation of adhesions that we'll be talking about later.

The primary focus of Palisade Bio Therapeutics will be to inhibit the activity of digestive proteases leaking from the duct during surgery and the constant damage and delayed return of bowel function. This unmet need is very well understood in the medical community and is often called postoperative ileus.

To illustrate how digestive proteases can damage intestinal tissues, here's data from a preclinical study in rodents that were subjected to a brief hypoperfusion injury. It's analogous to the loss of blood flow that a patient would experience while on a cardiac bypass pump during common open heart surgery.

While this is an instance where there's a picture -- this is an instance where a picture is worth a thousand words. In the control group on the left-hand side, you can see that the protease is nearly completely digested to villi, completely removing the epithelial cells and causing damage to the underlying tissues, including the musculature and the nerves required for motility of the intestinal tract.

Animals treated with LB1148 on the right-hand side of the picture have pristine-looking tissue architecture. The intestinal epithelial cells are completely intact, the barrier is protected and the underlying tissue showed no sign of damage or inflammation from proteolytic activity.

These differences are quantified in a study on the right-hand panel of the slide, where the control of villi are nearly 75% digested, while the villi from the animals treated with LB1148 almost completely intact. And we believe this tissue protection is responsible for the improvements in bowel function that we have observed in both animal and human studies.

To address these serious postoperative complications, we've created LB1148. This is a proprietary patent-protected formulation of an oral liquid serine protease inhibitor, tranexamic acid, formulated in already FDA-approved components. Patients drink LB1148 in conjunction with surgery to coat the intestinal mucosa barrier and protect the intestine during surgery and hypoperfusion. LB1148 is staged for regulatory success as its components have established safety profiles, and we plan to utilize the 505(b)(2) regulatory pathway for FDA approval.

Currently, the only other drug approved for accelerating return of postoperative GI function is Entereg. LB1148 has the potential to be the first drug approved for this indication since Entereg's approval in 2008. And importantly, we think LB1148 has significant advantages over Entereg.

Let's focus on Entereg and its precedent for a moment. As I mentioned, Entereg is currently the only drug approved for accelerating the return of postoperative GI function. But it has notable limitations, including a black-box warning for severe side effects, including a fourfold increase in heart attacks. Due to these serious side effects, it is utilized in relatively few hospitals, rendering a pressing unmet medical need for new treatments, like LB1148, that may improve the return of postoperative GI function. Importantly, and I cannot stress this enough, LB1148 works via a completely different mechanism of action that appears to avoid the safety concerns of Entereg.

But there are some great things about a competitor like Entereg. First is that it laid out the groundwork and has shown us the precedent pathway for FDA approval. It showed us how to design the clinical trial. They have the FDA agree to the approvable endpoints in bowel function. Now we're just following in their clinical and regulatory footsteps for regulatory approval. At the end of the day, we believe that LB1148 has the potential to help address this large unmet medical need with a drug whose components have well-characterized and acceptable safety profile. Ultimately, we hope LB1148 to be the standard of care in surgical setting.

So next, I'll describe the clinical data to date and the path for LB1148 to commence Phase III clinical studies. Again, I'd like to stress that we have 1 drug with 2 indications: accelerating postoperative return of bowel function and reducing postsurgical abdominal adhesions. In 2 completed clinical studies, LB1148 has demonstrated clinical benefits with a 30% and a 48% improvement in time to return of bowel function after cardiovascular surgery and GI surgery, respectively. This translated into a 1.1 to 1.3-day reduction in hospital length of stay and conversely could result in significant cost savings potential, if approved. With potentially 6.7 million addressable patients in the U.S. alone, LB1148 has tremendous potential.

In the next section, I'll be focusing on the data and path to approval for cardiovascular surgery. It's important to remember that the damage done to the bowel from these surgeries is due to the hypoperfusion injury that results from patients being on the cardiac bypass pump during open heart surgery. For those who are unfamiliar with the term, hypoperfusion means that tissues are starved of blood flow and oxygen while the patient is on the pump.

This was the study design for our completed Phase II study in cardiovascular surgery. It was a randomized, double-blind, placebo-controlled, investigator-sponsored study in 120 subjects undergoing elective cardiac surgery. Patients received LB1148 or placebo in conjunction with surgery. The study's primary endpoint was time to return of bowel function following surgery. We followed up with patients for a total of 30 days to assess ICU and hospital length of stay and other secondary endpoints.

This slide shows what we believe are the most compelling data we have so far. It makes us confident that LB1148 can have a meaningful impact on accelerating return of bowel function and shortening hospital stay. We achieved the primary endpoint with a highly statistically significant p-value of less than 0.001. It shows the return of bowel function following open heart surgery in the form of Kaplan-Meier curve. Each time a patient has a bowel movement and achieved the endpoint, there is an uptick in the line.

The median time to bowel recovery was 32 hours for LB1148 and 45 hours placebo. This is a highly statistically significant 30% improvement and the same endpoint we plan to use in Phase III. In addition for the secondary endpoints, we observed a 1-day reduction in ICU length of stay and a 1.1-day reduction in hospital length of stay. These were not statistically significant, but the study was not powered to observe efficacy on these secondary endpoints of length of stay. From a safety perspective, LB1148 was well tolerated with an acceptable safety profile that has shown no treatment-related adverse events.

The 30% improvement in return of bowel function following LB1148 treatment in open heart surgery compares favorably with Entereg, which was able to secure FDA approval based on demonstrating a 16% improvement in return of bowel function following GI surgery.

Moving on to Phase III. We will conduct a pivotal study in cardiac surgery to improve return of bowel function in neonates undergoing open heart surgery to correct congenital heart defects. There is a tremendous unmet need here for improving GI recovery as a lack of GI function delays return to full feeding in these neonates. For a newborn after surgery, feeding is critical for recovery. Feeding provides nutrition and weight gain. The return to full feeding is the key criteria for an infant to be discharged from the intensive care unit.

Indeed, delayed feeding following neonatal open heart surgery is linked to developmental delays, lower IQ, neurological disorders and ADHD. This market includes about 18,000 neonates undergoing on-pump open heart surgery annually in the United States. Further, infants undergoing heart surgery are at high risk of developing potentially fatal complication of necrotizing enterocolitis or often called NEC.

Neonates who develop NEC had nearly 30 days in a hospital length of stay and an extra $180,000 in medical costs. We believe that by protecting the intestinal mucosal barrier with LB1148, we may be able to accelerate the return of GI function and return to full feeding while minimizing the risk of developmental delays and the incidence of NEC.

From a regulatory and commercialization perspective, neonatal open heart surgery is an attractive first indication for LB1148. The program has the potential for important regulatory advantages, including rare pediatric disease exclusivity, breakthrough therapy designation, fast track designation and expedited review. This indication may further benefit from enthusiastic investigators in the clinical study, and is positioned for strong product launch to drive commercial success, particularly with a potential to align the incentives for both payers and providers.

We are currently finalizing the protocol with the FDA for our Phase III neonatal cardiovascular surgery trial. We anticipate it will be a randomized, double-blind, placebo-controlled study with 100 neonates undergoing elective on-pump open heart surgery to correct congenital heart defect. We plan to follow patients for 90 days to assess the endpoints of GI function, return to normal feeding, length of ICU and hospital stay and incidence of necrotizing enterocolitis. We anticipate initiating the Phase III trial in mid-2021, with final data expected in 2022. We anticipate the first 10 patients will participate in an open-label run-in, and we plan to disclose the data from those patients by comparing their outcome to the established standard of care.

In the upcoming section, I'll focus on the data and path to approval for gastrointestinal surgery. It's important to keep in mind that for this section, in the physical injury, it's the incision and the manipulation of the bowel that leads to the escape of digestive proteases and the subsequent enzymatic damage to the bowel that we believe causes the delayed return of function.

Our GI surgery study was an open-label, investigator-sponsored, single-arm study with 10 subjects undergoing GI surgery. As with our heart surgery study, the primary endpoint was time to return of bowel function following surgery. We followed up with patients for a total of 30 days to assess hospital length of stay, bowel obstruction and hospital readmit.

This presentation is our first public announcement of the data readout from the study. Notably, this study design also provides a second data readout in that second indication of adhesion, as noted by the second red star here. We assessed the development and severity of adhesions at the time of the second surgery, which I'll discuss in greater detail shortly.

For our open-label GI surgery study, we observed a 2.3-day reduction or a 48% improvement in the time to return of bowel function compared with Entereg historical placebo control, and no treatment-related adverse events were observed. The placebo arm of Entereg pivotal study showed approximately 4 days to recover GI function compared to 2.4 days for this GI surgery study. Not only did we see accelerated return of bowel function with LB1148 treatment, but we also observed a statistically significant reduction in the length of hospital stay of 1.3 days. In other words, this means the patients were discharged 1.3 days sooner than their expected length of stay. These expectations were prespecified based on the patient's procedural billing code at the time the patient was admitted for surgery.

For our second data readout in the study, we evaluated adhesion formations after initial GI surgery. Adhesions are bands of scar-like tissue that form during the healing process and connect organs and tissues that are not normally connected. These adhesions can cause organ strangulation, chronic pain and potentially life-threatening surgical emergency. Adhesions can be a major complication of abdominal and gynecological surgery and are observed in up to 93% of procedures, with up to 6.10 -- 6% to 10% requiring surgical intervention to remove adhesions.

Postsurgical adhesions can result in a number of health care complications. They are the #1 cause of secondary female infertility, the #1 cause of bowel obstruction and the #10 cause of emergency surgery. Complications from postsurgical adhesions can lead to $2.3 billion in health care costs annually.

Here are the data from an animal study demonstrating a 63% reduction in postsurgical adhesions. In this study, animals underwent a surgical procedure to resect a 2-centimeter piece of bowel and were allowed to recover for 7 weeks. As these images demonstrate, animals treated with vehicle have extensive adhesion formation that led to abdominal -- abnormal abdominal anatomy and inflammatory pathology. You can see that animals treated with LB1148 had normal GI anatomy and absence of pathological adhesions. This is quantified in the graph on the right-hand side of the panel with a statistically significant 63% reduction in adhesions in the LB1148 group.

From our GI surgery study, we had 3 patients who underwent a second surgery for complications unrelated to adhesions. This provided an opportunity to examine the effect of LB1148 on adhesion formation. In all 3 patients, there were no adhesions observed, zero. This is a striking result. The surgeon leading the study remarked that he has performed thousands of abdominal surgeries, and he was astounded by the absence

of adhesions in these 3 follow-up surgery patients. We believe these results support the hypothesis that LB1148 has the potential to be transformative oral treatment for prevention of adhesions.

So let's talk about the competitive landscape for adhesion prevention. There is a significant need for new treatment options for postsurgical adhesions. ADEPT, for example, is an FDA-approved treatment for the reduction of postsurgical adhesions and was approved based on a clinical study in which there was only a 10% difference between ADEPT and placebo in the number of patients reporting a success, defined as a decrease in 3 or more sites with adhesions.

We are encouraged by FDA's approval of ADEPT with these results and anticipate that oral drugs like LB1148 may have advantages to ADEPT and other surgical barriers that are medical devices in the operating room and used as a medical device. These can lengthen surgical duration and the time patients are exposed to anesthesia. To our knowledge, LB1148 is the only drug in development for the reduction of intra-abdominal adhesions.

We have begun enrollment in a randomized, double-blind, placebo-controlled Phase II study in GI surgery and expect to enroll a total of 120 to 200 subjects. There are 2 key data readouts from this study for the 2 approvable indications. The primary endpoint as for the first indication is for the time to return of GI function, with secondary endpoints of evaluating hospital length of stay, time to resolution of postoperative ileus.

The second endpoint readout is for the second indication and is the reduction of postsurgical adhesions. As in our previous GI surgery study, it is the -- it is in -- as in our previous GI surgery study, in this Phase II study for patients undergoing a second surgery, there will be an assessment for the presence or absence of adhesions and their impact on bowel function and postoperative pain.

To summarize, one of the driving forces behind our program is to present clear and compelling case for cost savings for the health care system. Shortening hospital length of stay is an obvious way to do that. In fact, these endpoints are built into our planned Phase III programs. This provides a compelling value proposition across the health care system. LB1148 has a well-characterized safety profile. The oral at-home dosing is convenient for both patients and surgeons. It has the potential to reduce health care costs, improve margins, while potentially improving long-term patient outcomes. When these key benefits are achieved, we expect that they will drive widespread adoption of LB1148, if approved.

I don't think we have to convince you that this is a tremendous market. There are about 1.1 million open heart surgeries and 5.6 million (sic) [5.5 million] abdominal surgeries each year in the U.S. alone. A 20% to 40% market share would equate to more than $2 billion annually. Our commercial strategy would include marketing to 5,000 U.S. hospitals. We plan to partner for ex-U.S. territories. In fact, we already have a co-development agreement partnership with Newsoara for commercial rights in China. And as a comparator for M&A value, earlier this year, Baxter acquired Sanofi's Seprafilm medical device for $350 million or 3.5x sales.

So to conclude, we've made great progress, transforming our companies through this transaction, and we expect several upcoming milestones over the course of 2021. By Q2, we anticipate we will have completed the merger with Seneca and the financing from Altium Capital. We will have initiated the Phase III study in neonatal cardiovascular surgery in mid-2021, and we'll be expecting multiple data readouts and regulatory milestones over the ensuing 12 to 18 months.

Data from the first 10 patients should read out in 2021. We are confident that we can continue to create and capture value for stockholders and patients over the next several years as we advance our programs through clinical testing.

Our robust pipeline includes several late-stage clinical trials that have the potential to address a number of important unmet medical needs related to broad GI disorders and related complications. We look forward to expanding our product pipeline of novel treatment options for pathologies caused by a loss of GI epithelial barrier integrity in the months and years ahead.

Finally, we are grateful and excited to announce this transformational merger with Seneca to form this new company, Palisade Bio, that will be key to achieving these goals and milestones.

With that, I'd like to turn it back to the operator to provide instructions for you to ask questions.

Operator

(Operator Instructions) This concludes our question-and-answer session. I'll turn the floor back to Dr. Hallam for any final comments.

Thomas Hallam - *Leading BioSciences Inc - CEO & Member of Scientific Advisory Board*

We know that may be a lot to digest, but we'd like everyone to know that we look forward to continue to introduce the soon-to-be Palisade Bio story to investors and the Wall Street community in the coming weeks and months. You can contact us by any means listed on the press release for any questions.

We'd also like to highlight the fact that we are participating in the corporate access event being hosted by LifeSci Advisors the week prior to and during the JPMorgan conference in January. I'd encourage investors to reach out to LifeSci to coordinate a virtual meeting with our management team. We think we have an extremely exciting story. So we're very appreciative of your time this morning. We look forward to continued advancement of our clinical programs and sharing this progress with you in similar forums.

Operator

Thank you. This concludes today's conference. You may disconnect your lines at this time. Thank you for your participation.