Realheart summarizes the spring's animal trials and tests automatic control

Realheart has concluded a series of eight short animal trials on sheep. The implantation technique for Realheart TAH has successively been developed and most of the earlier challenges have been resolved. During the spring's trials a unique automatic control has been tested.

The company has completed eight short pre-clinical animal trials on sheep. During the trials Realheart TAH has been adapted to the animal model through an adaptation of the surgical implantation technique, connections to the animal's vessels and control of de-airing. During the final operation the animal breathed spontaneously and could be transferred to the intensive care unit and stay alive for a few hours.

During the operations on calves that were performed during the spring and fall of 2018 Realheart could note that the amount of blood that flows back from the body and lungs varies heavily. The natural heart controls this variation by changing the pulse and stroke volume. Additionally it can pump different volumes from the right and left side of the heart.

Thanks to this discovery at the calf operations Realheart has performed significant work and developed a new and totally automatic control that controls the pump activity depending on the flow of blood back to the heart and the pressures in the atria. Realheart has during the sheep trials this spring tested this intelligent control which pumps exactly the amount of blood that flows back to the heart pump, and that can also pump different volumes from the right and left half. Another great advantage is that the control can keep the pressures in the atria of the heart pump stable and low, which facilitates the flow of blood from the lungs to the heart pump. This lessens or prevents the risk for pulmonary edema, which is a very common complication with heart pumps.

During the trials Realheart TAH functioned just like the human heart when the automatic control had been started. The control that was used is a first prototype to test the concept. Significant work remain for the completion of a final version.

According to the company, there is no other heart pump on the market or under development that is equipped with atria. Realheart's patented pump design makes it difficult for other pump manufacturers to develop similar atrium based systems for automatic control.

"Thanks to our latest work Realheart TAH is the only heart pump under development that can automatically control the blood volume by varying the stroke volume and pulse, in in that respect totally mimic the human heart. The automatic control is very important for our future studies and we are now inspired and ready to intiate the upcoming survival trials on animals", says Azad Najar, the CEO and founder of Realheart.

For more information please contact:

Azad Najar, VD

Tel: +46(0)736-673 463

E-post: azad.najar@realheart.se

Scandinavian Real Heart AB develops a total artificial heart (TAH) for implantation in patients with life-threatening heart failure. Realheart TAH has a unique, patented design that resembles that of the natural human heart. The artificial heart consists of a four-chamber system (two atriums and two chambers) which provides the opportunity to generate a physiologically adapted blood flow that mimics the body's natural circulation. A unique concept in the medical technology world.