Pilot study on impact of novel antimicrobial Reactive Oxygen® therapy in the prevention of surgical site infection

By Matoke Holdings Ltd, March 22, 2017

A pilot clinical study on the effectiveness of a novel antimicrobial therapy in stopping wound infections after surgery has started at University College London Hospitals.

Surgical site infections (SSIs) can double the length of hospital stay, significantly increase healthcare costs and reduce quality of life

SurgihoneyRO™ (also known as Surgihoney), helps wounds heal faster and rapidly kills bacteria that can cause infection (1,2). It also works against biofilm, layers of bacteria which are difficult to treat with antibiotics (3).

By preventing infections getting hold, it is hoped the antimicrobial gel will improve post-operative care and save the NHS money. Cutting infections could also reduce overuse of antibiotics, which in turn leads to bacteria becoming resistant.

The study, running from March 1 to September 1 2017, at the colorectal department of UCLH will see the gel applied to the wounds of 40 patients following complex surgery to reconstruct the abdomen after recurring hernias. A hernia is caused when parts of the intestine forces its way through a weakness in the abdominal wall.

Hernia surgery is among the most common operation in British hospitals with more than 130,000 performed each year. But some patients end up having repeat procedures because the repair has failed.

In such cases, surgeons may carry out more complex surgery than traditional hernia repair, separating each layer of muscle and moving the tissues to cover the entire circumference of the abdomen to allow closure.

The risk of surgical site infection depends on how clean or contaminated the wound is and where it is located on the body. Abdominal or gastrointestinal tract surgery bring a higher risk of infection.

Currently infections after complex abdominal wall reconstruction occur in over one third of patients. The hope is infection rates can be reduced to 10 per cent with a single application of SurgihoneyRO™ wound gel applied to the subcutaneous layer/skin.

The study will see patients assessed by clinicians at 5, 15 and 30 days after surgery to record signs of infection. Wound infection rates of patients involved in the study will be compared to previous infection rates.

If the pilot study proves a success, it could lead to a larger scale, multi-centre, randomised controlled trial.

Mr Sam Parker, surgical registrar, who is leading the study, said: "We would like to reduce the high rate of AWR infections and the sequelae that are associated with them, particularly the well-known association between surgical site infection and ventral hernia recurrence.

"Furthermore, we are looking to find novel therapies that will reduce our reliance on antibiotics. We chose SurgihoneyRO™ for the clinical study, as recent evidence is exciting and looks very promising in preventing infections. Compared to recent research, our study includes many contaminated and dirty surgical wounds, which have to date, presented a challenge to treat. Our research has now started and we are very excited about our early results."

The UCLH study follows *in vitro* research showing SurgihoneyRO™ is highly active against Gram positive and negative bacteria and active in preventing biofilm (1,2).

Previous clinical studies have shown SurgihoneyRO™ is safe and effective in the management of acute and chronic soft tissue infections (3) and in the prevention of surgical site infections after Caesarean operations (4).

About SurgihoneyRO™ & Reactive Oxygen® technology

Reactive Oxygen® technology is a novel solution to controlling bacterial growth (preventing and treating). It allows for the accurate delivery of low levels of hydrogen peroxide – a reactive oxygen species – at a controlled antimicrobial potency and therapeutic dose to the infection site for a sustained period.

SurgihoneyRO™, a bioengineered honey, is the current Reactive Oxygen® agent approved for clinical use. It has an EU CE mark and is an approved medical device for wound care. But Reactive Oxygen® technology is being developed for a range of clinical applications.

Please note subcutaneous use is outside of the indications for which SurgihoneyRO™ is currently accredited as an antimicrobial wound dressing.

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