

O33. ARE WOUND DRESSINGS BASED ON ROSIAK'S PROCESS STILL A TECHNICIAN CHALLENGE? THE BRAZILIAN EXPERIENCE

A.B. Lugão^{1,*}

¹ *Nuclear and Energy Research Institute, University of São Paulo, Brazil.*

* *ablugao@ipen.br*

The benefits of a moist wound for faster and more comfortable healing was only acknowledged after the remarkable works of George Winter published in Nature in 1962. It took some years to consolidate the concept among medical teams, and so the industry. Soon hydrogel dressings started to appear in the market place, but they were very expensive and inadequate in many aspects. Hydrogel dressings based on the simultaneous crosslinking and sterilization of the hydrophilic mixture of medical grade polymers was developed in the late 1980's by Janusz M. Rosiak and its team of Lodz Polytechnic. The clever and elegant process, so-called "Rosiak's process", attracted the attention of industries and many laboratories in Poland and the rest of the world. However, wounds are multiple in depths, infection and production of body fluids. Therefore it is not feasible to have a dressing for all and we have to face the reality of a tropical under development country and its national system of health. A very good dressing for the Brazilian needs would require some added features, such as enhanced swelling of body fluids, better anti-inflammatory effect and stronger ability to kill microorganisms. Silver nanoparticle are excellent well known microbiocidal agent and recently it was demonstrated an important anti-inflammatory effect independent from the microbiocidal one. The control of infection and inflammation has a marked effect in the exudation rate; however some infected tropical wounds are extremely proliferous in the generation of body fluids. Therefore there is a need to improve the swelling capacity without jeopardizing the excellent mechanical properties and without any significant added cost. Our presentation will address the challenges some of progress.