10 - Experimental model of double wounds on the rats back , in order to study the skin cicatrization process on rat treated with cellulose coat[1]

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ABSTRACT - To the present study were used males rats (*Rattus Norvegicus, var. Albinus, Rodentia Mammalia)* EPM-1 Wistar, which came from Biotério Central da UNIFESP-EPM. Each animal was submitted to two wound of circular shape, made with a "punch ," with superficial cuts of 2 cm diameter; located on medium line of dorsal region. In the present study, one wound was re-covered with the cellulose coat and the other serves as a control. This experimental form, makes it possible to us realize different studies such as macroscopic aspects of the wounds as well morphometric and morphological parameters analysis.

KEY WORDS - Wound cicatrization. Biological coat. Cellulose coat. Burns.

Introduction

The temporary substitutes of skin have been subject of intense research in the some world-wide centers, had its importance in the extensive losses of the cutaneous tegumento.

Amongst the main priorities in an extensive wound tissue, it is yours fast cutaneous covering, either enxerto autógeno fresh or the diverse materials used as temporary skin substitutes, that as we know, they will favor a growth fast of the granulation tissue, for a posterior enxertia or a shorter re-epithelization tissue with second intention. However, until the moment, still human being did not arrive itself at an ideal substitute for the skin. Constituting ours to see, a stimulation to the experimental research.

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Proposition

This study it has as objective, to tell the experimental model, where if tegumentares caused two wounds, of similar size and forms, in same animal, re-covering itself one of the wounds with the cellulose coat and using it another injury as group has controlled, in rats.

Method description

Male and adult rats had used themselves, for being citizens to a lesser hormonal variation and of growth, this form minimizing possible interferences in the process cicatricial.

The cutaneous region to be chosen must, necessarily, be inaccessible to the attempts that the animal habitually makes to reach it. By this reason dorsal craneal was chosen the medium region.

After the surgical act each cage was busy for an only animal, since it would have the risk of an animal to traumatize or same to remove the cellulose coat of the other. Kept with feeding and ad water libitum, temperature of 22º C and artificial illumination with fluorescent light bulb, being fotoperiod of 12 h clearly and 12h dark, considering the period of light from 7am until 7pm.

After one week of adaptation, the rats were submitted to the anesthesia, being placed under a bell jar with air saturated for sulphuric ether. After that, the animals were kept anesthestized with ether mask in enviromental air.

After being immobilized on plate, in position of ventral decubitus, the animal back of this were then, shaved throughout its length and of its width, for manual traction of the coats. Being technique of easy execution that presents the advantage of not traumatize the region, fact of common occurrence when plated instruments are used.

Procedure of the used surgery technique

The animals had been submitted the two wounds of circular format, carried through with punch, which the cut surface has 2 cm of diameter, located in the medium line of the dorsal region.

The depth of the wound included the epidermis, derme, hipoderme and muscular layer until the *fascia superficialis*. The first wound was made approximately the 2 cm of the base of the ears, in the direction skull-volume, and second wound , approximately the 2 cm of the first one (Figure 1).

After that, on the first wound, cellulose coat, settled with 4 points of 5-0 monofilament nylon (Figure 2).

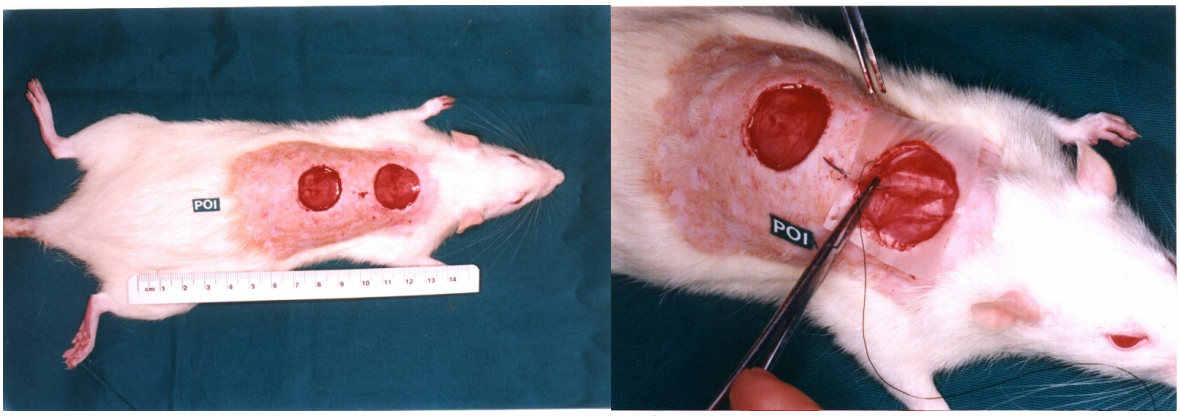
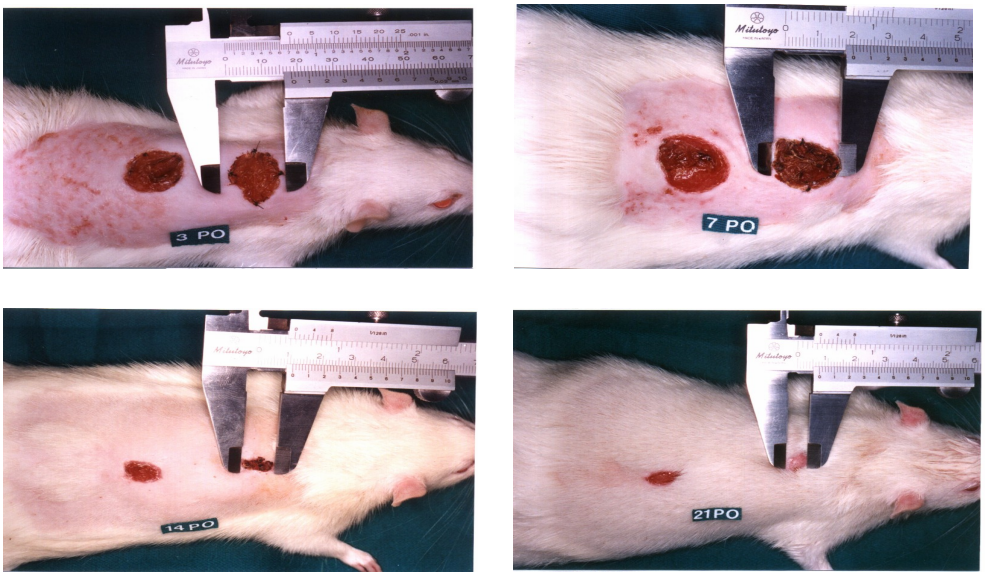


FIGURE 1 and FIGURE 2 - The second wound was left discovered as control, without any treatment**.**

The setting of the coat through four points of suture with nylon mono filament 5-0, assured its immobility until its dehydration and consequence tack of the cellulose coat on the injury. The analysis of the morphometric

and morphologic parameters was carried through in days of postoperative daily pay-definitive. Making possible a morphologic and macrocospic study, where differences in the degree of contraction of the wound had been observed control (without coat) and of the wound of the group with the coat, in the same animal (Figures 3, 4, 5 and 6).



FIGURES 3, 4, 5 and 6 - Mcrocospic aspect, of the different degrees of contraction of the wounds, in observance to the days of postoperative.

Perspectives

The experimental model of the double wounds in the back of rats, revealed feasible. Being able to be extended, how much to the innumerable variants of study on the contraction and the cicatrization of the wounds, using itself other materials of temporary covering, as well as, substances of topical use, one being with the material to be studied and to another one serving of control.

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RESUMO - Foram utilizados para o presente estudo, ratos machos (*Rattus Norvegicus, var. Albinus, Rodentia Mammalia)*, da linhagem EPM-1 Wistar, oriundos do Biotério Central da UNIFESP-EPM.Cada animal foi submetido a duas lesões de formato circular, realizadas através de um "punch," com superfície de corte de dois centímetros de diâmetro; localizadas na linha média da região dorsal. No presente estudo uma das lesões foi recoberta com a película de celulose e a outra servindo de controle. Esta forma de modelo experimental, nos possibilita realizarmos estudos quanto ao aspecto macroscópico das lesões (contratura e fechamento das feridas), bem como a análise de parâmetros morfométricos e morfológicos, dentre outros.

DESCRITORES - Cicatrização de feridas. Curativo biológico. Película de celulose. Queimaduras.

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