

The skin of tilapia in the treatment of burns of second and third degrees beyond more efficient, is low cost

A pele da tilápia no tratamento de queimaduras de segundo e terceiro graus, além de mais eficiente, é de baixíssimo custo

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The aim of this research is to demonstrate that it is already possible to treat burns in a way that decreases the suffering of the patient. It is well known that injuries due to burns are, by their nature, extremely painful, especially when the dressing is changed.

Burns are a serious public health problem, representing the second cause of death in childhood in Brazil. According to the Brazilian Society of Burns, it is estimated that, in Brazil, there are around one million accidents with burns per year. Of these, one hundred thousand patients seek hospital care and about two thousand and five hundred will die, directly or indirectly, of their injuries.

Facing this situation, the professor/coordinator of SOS Burns and Wounds of the São Marcos Hospital of Recife (PE), together with the team of researchers led by Professor Edmar Maciel, president of the Burn Support Institute (IAQ), proposed that the treatment of wounds originating from burns with the skin of the tilapia have proved to be very effective, mainly, to avoid the pains that occur at the time of the change of dressing.

Furthermore, in addition to the efficiency in wound healing, this treatment does not subject the patient to severe pain and discomfort at the time of dressing change, since, through this procedure, there is no need to change the dressing. Besides the fact that there is no need to change the dressing, which would already be very important, due to avoiding the suffering patient, it was also revealed that fish skin has twice as many collagens (type I) as human skin.

In 2017, the team of researchers performed a test with 60 patients and the results were highly positive

The study revealed that in addition to patient pain relief and increased efficacy of the new technique, the cost of treatment is much cheaper because conventional treatment is done with ointment and there is a need to change the dressing every two or three days, depending of the severity of the injuries.

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With all the benefits and adaptability of tilapia skin to human skin, there is no need to redo the dressing as in conventional treatment. They also report that the research has revealed that the new technique has reduced pain by 30 to 50%, which is very significant for the quality of treatment.

Over all the benefits already reported, it should be noted that Brazil is among the largest fish producers in the world, and tilapia accounts for 58.4% of this production, that is, more than 280 thousand tons. It should be noted that 99% of the skin of the tilapia is discarded, which means that the raw material is abundant and therefore cheap. These are very expressive numbers and, regrettably, something very important is being wasted for Medicine, a revolutionary product for patients with second and third-degree burns.

According to Dr. Edmar Maciel, the idea of using the skin of tilapia in burned out came five years ago and today the research around the application is two and a half years. The research involved the work of 49 professionals from the Federal University of Ceará, under the coordination of Dr. Odorico Moraes.

The preparation process is carried out with the removal of skins from tilapia, which are then washed with running water and placed in isothermal boxes to be sent to storage at the Federal University of Ceará, after passing through the initial sterilization, are sent to São Paulo, to the University of São Paulo (USP) Institute for Energy and Nuclear Research (IPEN), where they undergo radio sterilization (a procedure that eliminates possible viruses and guarantees the safety of the product). When they return to the fur seat after about 20 days, the skins are refrigerated and can be used for up to two years.

According to the World Health Organization (WHO), a skin bank is recommended for each municipality with more than 500,000 inhabitants, but the reality in Brazil is different, as there are currently four units: São Paulo, Porto Alegre, Curitiba and Recife. Of these, there are only three that are active, namely, São Paulo, Porto Alegre and Curitiba. As the percentage of burns are alarming, these three fur banks can supply only 1% of the demand demanded in the country.

The lack of information, or even an effective publicity work, by the health authorities, has caused a very low yield of fur donations. However, it is possible that with a work of efficient dissemination of the importance of this material, which is thrown away by the producers, one can take advantage of Medicine, in order to supply the demand and avoid much human suffering.

The most important thing about this new health technology is that we have abundant and very low-cost raw materials in the country, which will surely supply all our demand and possibly prove to be a product with high added value for export.