Title: BACTERIOLOGICAL CONTROL OF FIBRIN SEALANT DERIVED FROM SNAKE VENOM

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Abstract:

The lesions in the epithelial tissue, also known as ulcers are a common occurrence in the population, but when complicated by infection or chronic represent a serious public health problem. As an alternative treatment researchers of the Center for the Study of Venoms and Venomous Animals (CEVAP) proposed to engage in prospecting for a new sealant from a serine protease extracted from snake venom associated with a fibrinogen-rich cryoprecipitate extracted from buffalos. The objective of this study was to create and implement bacteriological control measures during the stages of production of the new fibrin sealant, to ensure the safety from the raw materials to the finished product. Initially they were accompanied all activities related to obtaining components and from there a production flow chart was elaborated. Samples from various moments of manipulation were taken until the packaging of lyophilized venom. In parallel, analyzes were performed of the finished product in order to check if existing measures are effective to ensure safety. The samples were collected in microtubes, swabs and rodac plates. It was used sheep blood agar (AS) and McConkey agar (MC). The AS and MC media were incubated in bacteriological incubator at 37 ° C with readings every 24, 48 and 72 hours. Two other plates also containing AS and MC were incubated under anaerobic conditions with readings after 48 hours of incubation. It was observed the presence or absence of bacterial growth on the plates and when required, the cultures were stored for future identification. The results showed the presence of contamination during extraction of snake venom mainly positive and aerobic gram microbiota. In some cases it was observed fungal growth in spite of the culture media are not specific for this purpose. After the processing steps of this material contamination was effectively removed due to the use 0,22µm filter not remaining any bacteriological risk to the product. Regarding the fibrinogen and the finished product was not found any contamination. Future actions will focus on monitoring this situation, to reduce the initial bacterial load and also in management actions that may interfere with the production of the sealant. Despite the existence of contamination at the time of extraction and manipulation of the venom existing practices in the CEVAP have shown efficient since nothing was isolated from lyophilized venom or the final product.

Palavras-chaves: Fibrin sealant, snake venom, chronic venous ulcers

Agência Fomento: CAPES