POLYMERIC HYDROGELS WITH SILVER NANOPARTICLES FOR WOUND TREATMENT
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Hydrogels are polymeric materials organized by three-dimensional networks formed by crosslinks. In the last 40 years, the use of hydrogels has been investigated for several applications, such as health, agriculture, among others. Our objective was to evaluate the action of hydrogels with silver nanoparticles, for healing of chronic wounds. Gamma radiation was used to crosslink the hydrogel, sterilize and form the silver nanoparticles simultaneously. Irradiation is recognized as a very viable tool because there is no need to add possibly harmful initiators or crosslinkers that are difficult to remove. The physico-chemical characterizations were: "in vitro" release, cytotoxicity and "in vivo" test. The results indicate that the hydrogel with silver nanoparticles in addition to reducing the size of the wounds, corroborates recovering the granulation of the wounds, fundamental characteristics to promote the cicatrization. Therefore, new studies have being developed to improve these hydrogels for future applications.