**Designing sterile bioactive ready to use wound dressings by radiation induced crosslinking**

Baljit Singh1, and Rajneesh2

Department of Chemistry, Himachal Pradesh University, Shimla -171005, India.

1Email: baljitsinghhpu@yahoo.com, Ph. +(91)1772830944,

2Email: [rraajneesh@gmail.com](mailto:rraajneesh@gmail.com), Ph.9459829606

**Abstract**

Recently, new approaches have been developed to prepare the functional wound dressing for better wound care. Among different modern wound dressings, hydrogel dressings prepared from natural polysaccharides can act as ideal wound dressings for wound healing . The present work discusses the formation of tragacanth gum polysaccharide based sterile hydrogel wound dressings by radiation induced crosslinking technique. Some biomedical properties of hydrogel dressings like wound fluid absorption, thrombogenecity, haemolysis, antioxidant activity, mechanical strength also determined along with the drug release. Release of antibiotic drug moxifloxacin occurred through Fickian diffusion mechanism and release profile was best fitted in to Kosmeyer Pappas model of drug release. It has been observed that hydrogel wound dressing could be used for the controlled and sustained release of antibiotic drug for better wound healing due to their antioxidant and biocompatible nature.

Thrust area : Polymer Chemistry

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