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Development of nanofibers based neuropathic patch loaded with Lidocaine to deal with nerve pain in burn patients

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Burns wounds are difficult and different when compared with other wounds. The management of burn wounds is divided into three main categories; pain management, infection management and healing. Various commercial products are available to treat and prevent infection in burn patients but, for the management of pain, intravenous (IV) route is preferred which is associated with different side-effects. The local release of analgesic agent for nerve pain can reduce the IV related side effects and can provide quick and effective nerve pain management in burn patients. In this study, electrospun nanofibers of sodium alginate/PEO were loaded with lidocaine to reduce nerve pain and the effect of parameters were studied to get optimized bead free nanofibers. The drug release was tunable (from minutes to hours) and other properties like liquid absorption were studied against distilled, saline and solution A. The combination of moist environment and strong nerve pain inhibitor could be salient features as well as the use of antidepressant drugs could be skipped.

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