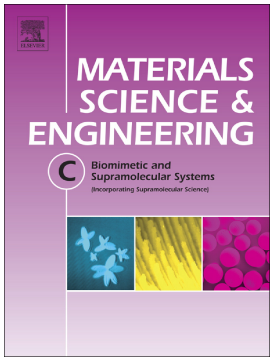

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Development and characterization of the cisplatin loaded nanofibers for the treatment of cervical cancer

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ABSTRACT

A small scale study was carried out to investigate the therapeutic efficacy cisplatin loaded poly-caprolactone / chitosan composite electrospun nanofibers for local chemotherapy of cervical cancers in mice. The prepared nanofibers had shown the sustained release pattern up to one month. Prepared nanofibers were found to have greater mucoadhesive strength. An orthotopic cervical cancer model was established by inducing the EAC cell lines in the vaginal mucosa at cervix region of the mice. Intravaginal administration of the cisplatin loaded nanofibers showed lesser % cell viability as compared to the plain drug. In vivo studies showed a better anti-tumour efficacy of prepared nanofibers in animals at 14^{th} and 21^{st} after the beginning of treatment. Therefore the technique of electrospinning provides a favourable approach for the targeted delivery of the anti-cancer drug via vaginal route against cervical cancer.

Keywords: Cisplatin, Cervical cancer, EAC, Localized, Polycaprolactone, Chitosan

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