A clinical trial on optimization of the heparin utilization in coronary angiography

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Unfractionated heparin (UFH) has been conventionally used during coronary angiography (CAG). However, no data is available for the dosage required. Vascular complications are still frequent in special group of patients. The objective of this study was to determine the incidence of bleeding, vascular, and ischemic complications using three different heparin regimens after successful coronary angiography. This study enrolled 105 patients divided into three groups: Group 1: (n=35 patients) receiving a dose of 5000 IU (systemic heparinization), Group 2: (n=35 patients) receiving a dose of 5000 IU of heparin on the flush saline and Group 3: (n=35 patients) control group will receive flush saline i.e. normal saline flush. All patients included in the study will be subjected to full history taking, complete general and local examination of the heart and blood vessels, 12 leads resting ECG, routine laboratory investigations including fasting blood sugar, liver and kidney function tests, complete blood picture, lipid profile and coagulation profile. Descriptive statistics was done including mean, standard deviation and percentage. Comparison between groups was done using one way analysis of variance and comparison between the parametric variables was done using Chi-square test. Results of the current study showed that there was no significant difference between the three groups regarding the number of diseased vessels or the incidence of slow coronary flow or incidence of normal coronary arteries (P>0.05). The clotting time and PTT were not significantly different in the three groups before coronary angiography (P>0.05). After coronary angiography, clotting time and PTT were significantly higher among group I and II than that of group III (P<0.05). Comparison between before and after coronary angiography in group I and II, the results showed that the clotting time and PTT increased significantly after the procedure (P<0.05) while, in group III there were no significant difference between before and after the procedure (P>0.05). The sheath removal duration was significantly higher among group I and group II than that of group III (P<0.05). There were no major complications recorded in any of the patients in the three groups. Routine elective coronary angiography may be performed without the use of UFH was found to be safe however further detail study is recommended.

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Formulation and evaluation of a new liposomal-drug-in-adhesive patch for transdermal delivery of sumatriptan succinate

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The transdermal route of drug delivery has gained great interest of pharmaceutical research, as it circumvents number of problems associated with oral route of drug administration. The major barrier in transdermal delivery of drug is the skin intrinsic barrier, the stratum corneum, the outermost layer of the skin that offers the principal barrier for diffusion of drug. Recently, various strategies have been used to improve the transdermal delivery of drug. Among these strategies Liposomes are known to have considerable potential as drug carriers such as liposomal suspension, freeze dried and cream-based systems among many other liposomal formulations. Sumatriptan Succinate is an agonist for a vascular 5-hydroxytryptamine receptor subtype (probably a member of the 5-HT1D family), having an elimination half life of 2.5 Hours, its maximum daily dose is 200 mg orally and oral bioavailability is 15%. The present study is aimed to fabricate Sumatriptan Succinate "lipo-drug-in-adhesive" patch system, using liposome based carrier for increased permeability of Sumatriptan Succinate through skin pores. Transfersomes as ultra-deformable liposomes based on phosphatidyl choline as vesicle forming component, surfactants like sodium cholate, sodium deoxy cholate, Tween-80 and Span-80 for providing flexibility were prepared by hand shaken method, Sonication, Free Thaw method, Rotary shaking method and further optimized in a acrylic patch system for effective adhesion. The role of Transfersome on drug release characteristics of transdermal drug-in-adhesive patch in relation to the peel strength and tack value of the whole acrylic adhesive patch is studied and reported.

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