

G - 60

HEPARINIZATION OF POLYURETHANE SURFACES

E.K.M.Ueda¹, A.A.A.de Quelroz², O.Z.Higa¹

1 Coordenadoria de Bioengenharia - IPEN - C.P. 11040 SP

2 Departamento de Ciências - EFEI - C.P. 50 MG

Due to heparin antithrombogenic action on endotelial surfaces *in vivo*, its immobilization on polymeric surfaces gives a interesting approach to solve the biomaterial hemocompatibility problem. The polyurethane surface modification by grafting induced radiation polymerization showed to be a valuable technique for the polyurethane heparinization .

The heparin molecule was immobilized by covalent bond on a polyurethane surface grafted with acrylic acid (PU-g-AA) and by adsorption, on a non modified polyurethane (PU) , polyurethane coupled with bovine serum albumin (PU-g-AA-BSA) and polyurethane grafted with N-isopropyl acrylamide (PU-g-NIPAAm). The coefficient of immobilization yielded the range of 5 - 28,2%. The antithrombogenicity of the surfaces was evaluated by te platelet adhesion through scanning electron micrographs (SEM). There was a straight correlationship between the heparin immobilization grades and the decrease or absence of thrombi occurrence on the polymeric samples .

Supported by CNPq

IPEN - DOC -

2803

SBBq