

# Surface Properties and Antithrombogenicity of Hydroxyethyl Methacrylate Grafted Poly(ethylene Terephthalate) Film

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Poly(ethylene terephthalate) (PET) film was pretreated with dimethyl formamide (DMF) and dioxane, respectively. When the DMF pretreatment was carried out at a high temperature (ca. 120°C), the swollen PET structure was stabilized and the monomer incorporation was easier. After the swollen PET film had been immersed in azobisisobutyronitrile and 2-hydroxyethyl methacrylate (HEMA), the incorporated HEMA on the PET film was polymerized. The best results were obtained when the polymerization was carried out at 80°C for 20-30 hours. In succession, poly(HEMA) (PHEMA) was grafted onto the film by nitrogen plasma treatment and antithrombogenicities were examined by the methods of blood clotting and platelet adhesion tests. It was found that the antithrombogenicity of PHEMA grafted PET films was improved (Fig.1) and this had relation to the hydrophilic surface modification of PET.

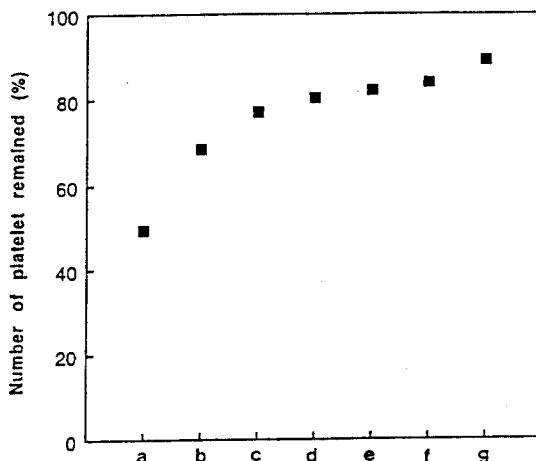


Fig.1. Relative numbers of platelet remained in the sampling bottle for the various materials.  
a. original PET ; b. PHEMA incorporated PET ; c. PET-g-PHEMA-30 ;  
d. PET-g-PHEMA-60 ; e. PET-g-PHEMA-180 ; f. PET-g-PHEMA-300 ;  
g. PET-g-PHEMA-600 .