

저온 플라즈마 전처리 견 피브로인 막에의 메틸메타크릴레이트  
및 스티렌의 그래프트 공중합, 이들 막의 표면특성 및 항혈전성

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Silk fibroin was dissolved in calcium chloride/ethanol/water mixture (1/2/8 in mole ratio) at 70°C for 4 hours. The dissolved silk fibroin was regenerated by casting the dialyzed solution into the film. The films were treated with 50% aqueous methanol solution for 15 min. Thereafter, the films were graft copolymerized with methylmethacrylate and styrene by methane plasma initiation and their antithrombogenicities were investigated by the methods of blood clotting and platelet adhesion tests. The results from the two "in vitro" tests were analyzed in connection with surface grafting of the film by using electron spectroscopy for chemical analysis. It was found that the antithrombogenicity of grafted films was improved by the surface grafting (Figs. 1 and 2).

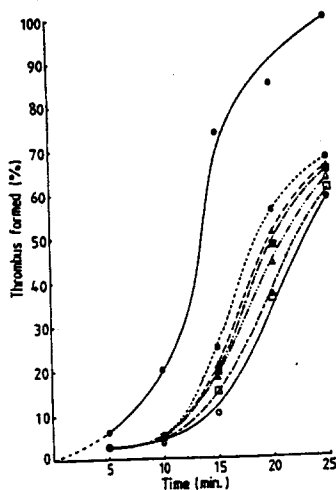


Fig. 1. Rate of thrombus formation on the MMA-grafted silk fibroin films; (●) glass, (○) SFA-15, (▲) SFP, (■) SF-g-M-3, (△) SF-g-M-6, (□) SF-g-M-12, (○) SF-g-M-24; SF: silk fibroin, SFA: 50% methanol treated silk fibroin, SFP: methane plasma treated silk fibroin, M: MMA, numbers: treating time (min or hrs).

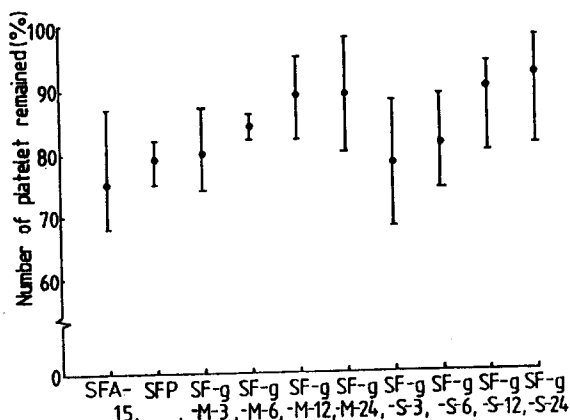


Fig. 2. Relative numbers of platelets remained in the sampling bottle for various samples; (●: average value); S: styrene.