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THE EFFECT OF HEMOLYTIC ACTIVITY AND PROTEIN ADSORPTION OF CORONARY STENT WITH DIFFERENT HYDROPHOBIC SURFACE

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Objective To investigate the effect of hemolytic activity and protein adsorption of coronary stent with different hydrophobic surface.

Methods The propyl triethoxysilane, octyltriethoxysilane and 3-(2, 3-epoxypropoxy) propyltrimethoxysilane were modified to the surface of 316L stainless steel which was the material of coronary stent. The hydrophobic intensity was evaluated by testing contact angle, and the hemolytic activity and protein adsorption were carried out as well.

Results The hemolysis ratio of different steel are less than five percent, which meets the standard of hemolysis test. The amount of protein varies with the hydrophobic ability of different surface.

Conclusion The hydrophobic ability of surface of coronary stent can be changed by modifying saline with different chain length, and it has good blood compatibility. The ability of protein adsorption was enhanced with the improved hydrophobic intensity.