

JCK Poster

## JCK Poster 1 (II-JCKP1)

### Basics/New Insights/Others

Chair: Tran Cong Bao Phung (Cardiology Department, Children Hospital 1, Ho Chi Minh City, VietNam)

Sat. Jul 8, 2017 6:15 PM - 7:15 PM Poster Presentation Area (Exhibition and Event Hall)

---

6:15 PM - 7:15 PM

## [II-JCKP1-02] Establish Heparin / Collagen-REDV selective active interface on ePTFE to promote endothelialization

○Yaping Shan, Bing Jia (Department of Children's Hospital, FUDan University, Shanghai, China)

**Objective** To construct heparin / collagen-REDV selective active interface on the surface of expanded polytetrafluoroethylene, and observe the endothelialization level and cell activity on the surface of ePTFE in vitro. **Methods** Five layers of heparin and collagen combined coating [(HEP/COL)<sub>5</sub>] were prepared on the surface of 0.1mm ePTFE membrane by layer by layer self-assembly technique, and REDV peptides were coated on its surface, then a selective active interface on ePTFE was obtained. Unmodified ePTFE, (HEP / COL)<sub>5</sub> modified ePTFE, (HEP/COL)<sub>5</sub>-REDV modified ePTFE and (HEP/COL)<sub>5</sub>-REDV modified ePTFE were co-cultured with umbilical vein endothelial cells for 24 hours to 72 hours, observed the endothelialization level and cell activity on ePTFE. **Results** Co-culture 1h and 6h, the number of endothelial cells adherent on (HEP/COL)<sub>5</sub>-REDV modified ePTFE was more than other groups (P<0.05); Co-culture 24h, 48h, 72h, the endothelial cells on modified ePTFE were significantly more than unmodified, the endothelial cell number and cell activity was highest in (HEP/COL)<sub>5</sub>-REDV modified ePTFE group (P<0.05). **Conclusions** Using layers by layer self-assembly technique to build a selective active interface on ePTFE surface can promote endothelial cells adherent to ePTFE, as well as promote cell proliferation and improve cell activity.