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DLC film coating for anti-infective property MASATO IWATSUKI, YUTA HOSHINO, YASUHARU OHGOE, ALI ALANAZI, KENJI HIRAKURI, YASUHIRO FUKUI, TOKYO DENKI UNIVERSITY TEAM, KING SAUD UNIVERSITY TEAM — In the medical treatment and health care, infectious disease for an internal indwelling catheter is the greatest factor of the hospital-acquired infection. It is difficult to fix a biological tissue on the catheter (polytetrafluoroethylene) because the use of these polymeric material issues the space between the catheter and the biological tissue. Therefore, the infectious disease is introduced by bacterium invade from the space. To solve this problem, it is expected that the surface of the polymeric material is improved by any coating with cytocompatibility and the space is covered by biological tissue. In this study, diamond-like carbon (DLC) film with cytocompatibility was coated on the outer-wall of a catheter by r.f. plasma CVD technique using special electrode. The cytocompatibility of the DLC film coated on the internal indwelling catheter was evaluated by in-vitro test using the mouse fibroblast. It was found that the cytocompatibility of the catheter with DLC coating is dramatically improved.

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