Submission No.: KTJS-8888
Session : KST-TST Joint Symposium
Date & Time, Place : November 19 (Sat), 10:00-11:30, Room 3F-1
Session Title : Functional Allograft

Current situation and future perspective of hand transplantation in Taiwan

Cheng-Hung Lin
Linkou Chang Gung Memorial Hospital, Taiwan

Vascularized composite auto-transplantation is one of the most important breakthroughs of plastic and reconstructive surgery in the past four decades. However, due to the limitation of the donor source and morbidity of the donor site, current composite auto-transplantation still could not achieve optimal outcome in the patients with extremity amputation or complex facial defects. Thus, vascularized composite allo-transplantation (VCA) has emerging as a viable means of restoring form and function in patients with devastating tissue deficits. Although there is no much difference in surgical details between composite auto-transplantation and allo-transplantation, the post-transplantation immune response is difficult to overcome. The requirement of multi-drug immunosuppression regimens to enable allograft survival comes at the expense of risks and side effects such as opportunistic infection, metabolic complications, or even malignant disease. To date, more than 100 cases of the upper extremity and 40 face transplants have been performed and revealed optimal function recovery. According to preliminary reports, comprehensive monitoring of acute rejection, appropriate immunosuppressant regimen and compliant post-transplant rehabilitation have been proved as key factors to successful hand and upper extremity allotransplantation.

In Chang Gung Memorial Hospital at Linkou, with IRB approved for hand and upper extremity allotransplantation, we propose to conduct transplantation to 5 amputees, based on our basic researches using animal models, clinical observation of human transplant, and international collaboration. We expect to restore a reasonable function, avoid significant side effects of the immunosuppressant drugs, and finally enhance social interaction and improve the amputees' quality of life. Our goal is to establish a surgical treatment option for those patients with devastating upper extremity deformities using human hand and upper extremity allotransplantation under the rational immunosuppression therapy to promote long-term graft acceptance.