Special Lecture 2.

Effect of prostaglandin E1 on cutaneous microcirculation of flap or replantation

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Both vessel arterial ischemia and venous congestion are main factors of tissue necrosis in the flap surgery. Vasodilatory and/or antithrombic agents have been used for salvage of flap necrosis. However, the therapeutic effects of those drugs are still not well elucidated.

Recently prostaglandins E1(PGE1) has been shown to ensure flap survival by producing vasodilatation of the peripheral vessels and platelet disaggregation. However, direct observation and detailed quantitative studies of the effects of PGE1 on the cutaneous microcirculation have not been reported. In the present study, we investigated microcirculatory changes in the rabbit ear chamber (REC) with an intravital microscope following intravenous administration of PGE1. The results obtained in this study indicate the PGE1 administered intravenously at a rate 200 /g/min might act directly on the vessel and cause dilatation of metarterioles and capillaries without affecting vasomotion and systematic blood pressure, resulting in the increased cutaneous blood pressure. Our experimental date may provide basic support for the therapeutic effect of PGE1.

Clinically in order to evaluate the effect of an intravenous administration of PGE1 on the cutaneous microcirculation, cutaneous blood flow, skin temperature and transcutaneous PO2 in the pedicle or free flap of operated patients were evaluated after the administration of PGE1 by the combination of several measurements. Those clinical data will be reported.

Special Lecture 3.

Blood "No Reflow" in Skeletal Muscle After Replantation = Kappa Delta Award 1994 =

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Over the past 15 years we have designed and completed a series of experiments to study the "no flow/no reflow" phenomenon in reconstructive microvascular surgery. We define "no flow" as a lack of blood flow across the anastomotic site despite technically satisfactory anastomosis, and "no reflow" as the failure of blood to