2 Summary

The massive development in the use of prostheses in vascular surgery has resulted in a rise in the number of associated complications, including infections of the vascular prostheses. This situation has now given rise to a certain revival of interest in vascular allografts, which has certainly been supported by recent successes in transplant surgery.

Samples of arterial and venous allografts were removed from a number of organs and were preserved and then treated at set intervals of time. This series of human arteries and veins were stored in hypothermal or combined conditions for a period of 1 - 30 days in a nutritive medium of E-199 and Custodiol® supplemented with antibiotics.

The progress of morphological changes to human arteries and veins during hypothermal and combined normal/hypothermal preservation in a solution of E-199 and Custodiol® supplemented by antibiotics was followed in both cases for a period of 30 days. The findings by scanning electron microscope and light microscope showed that the arterial grafts treated in both heat regimes were more resistant to change than the venous grafts during the first few days, although those kept in hypothermic +4 °C conditions were more so.

For certain specific indications, vascular allografts still maintain a place in clinical vascular surgery. Their increased application is primarily dependent on further reduction in the number of complications associated with the implantation of foreign biological material. Promising results can be expected from improvements in technical procedures for preserving grafts and developments in modern immunosuppressive drugs. However, the most important conditions for success and benefits for patients remain accurate indications and the precise performance of the surgical procedure.

Key words: infection of the vascular prosthesis, vascular allograft, normal/hypothermal preservation, solution of E-199, Custodiol®