

Effect of Autologous Blood Donation with Intraoperative Cell Salvage and Blood Transfusion on the Requirements of Revision Total Hip Arthroplasty

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Abstract

Background: Revision total hip arthroplasty (THA) is associated with increased blood loss.

Patients and methods: We reviewed 32 patients who underwent revision THA to identify modes of implant failure, use of autologous blood donation with/without intraoperative cell salvage, and allogeneic blood transfusion requirements.

Results: Five patients underwent revision THA for infection or fractures. None used autologous blood donation and four required allogeneic blood transfusion. Twenty-seven patients underwent revision THA for aseptic loosening. In this group, 17 used autologous blood donation with intraoperative cell salvage, and the other 10 used intraoperative cell salvage without autologous blood donation. Allogeneic transfusion was required in only two of 17 patients of the former group, and in seven of 10 patients of the latter group ($p=0.007$). Use of autologous blood donation with intraoperative cell salvage led to lower allogeneic blood transfusion requirements.

Conclusions: These data show that use of autologous blood donation with intraoperative cell salvage is clearly associated with decreased allogeneic blood transfusion requirements for revision THA. Identification and treatment of patients at a higher risk of allogeneic blood transfusion may guide probable allogeneic blood transfusion requirements, and is a safe, effective method of managing blood loss for revision THA.

Key words: Revision hip arthroplasty, Blood loss, Transfusion, Autologous blood donation, Intraoperative cell salvage