The use of fibrin sealant to reduce blood loss during Cotrel-Dubousset instrumentation for idiopathic scoliosis.

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Abstract:

The increased complexity of Cotrel-Dubousset instrumentation has, as an unexpected side effect, a potential increase in blood loss. A prospective randomized study was undertaken to test the hypothesis that application of a fibrin sealant to exposed cancellous bone can significantly reduce blood loss during Cotrel-Dubousset instrumentation for idiopathic scoliosis. A significant difference was demonstrated in total body loss, loss per level fused, and loss per kilogram of body weight when comparing the sealant group with random controls. A significant difference was demonstrated in loss per level fused when comparing the sealant control with a historical control group. Thirty-three patients were randomly assigned to the fibrin sealant or nonsealant groups; another 10 patients operated on before planning the study were included as historical controls. The sealant was used to control bleeding at the bone graft donor site and in the spine after decortication. All patients underwent Cotrel-Dubousset instrumentation for idiopathic scoliosis. There were no significant differences between groups with respect to degree of curvature, number of levels fused, age or weight of patient, or operating time. Total blood loss in the sealant group averaged 672 ml compared with 894 ml in the sealant control group. No patient in the sealant group required homologous blood. Given the increasing awareness of the complications of blood transfusion, the authors conclude that fibrin sealant is a useful adjunct to spinal surgical technique.