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Open Heart Surgery without Homologous Blood Transfusion for Ventricular Septal Defect and Pulmonary Hypertension

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To establish the indication for open heart surgery without homologous blood transfusion for ventricular septal defect and pulmonary hypertension (VSD PH), we reviewed the hemodilution during cardiopulmonary bypass (CPB) and the clinical data in 100 infants weighing 3.3kg to 4.9kg who underwent open heart surgery with bloodless priming from February 1997 to May 2001. The mean lowest hematocrit (Hct) during CPB was 15.1 %(range 11.0-20.0%), whereas the Hct increased to 28.0%(range 19.0-33.0%) on the second postoperative day. Although 6 infants needed blood transfusion, the remaining 94 infants (94%) were operated without blood transfusion with satisfactory postoperative course (refer to below fig). There were no neurological complications, and the psychomotor development index scores after surgery were almost normal.

We recommend open heart surgery without homologous blood transfusion when the VSD PH infants weight more than 3 kg.

