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Surgical repair of ventricular septal defect; contemporary results and risk factors for a complicated course.

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Introduction:

The ventricular septal defect (VSD) is the most common congenital malformation of the heart and therefore surgical closure of a VSD is the most common pediatric open heart surgery. This surgical procedure is relatively safe but there are studies that suggest a higher risk at complications with low weight and young age. The purpose of this study was to see if there was any correlation between young age/low weight and complications and to evaluate the safety of this procedure.

Methods:

This retrospective study examined a consecutive series of 243 VSD closures at a single institution. Because mortality is low in nearly all centers for repair of these defects, we focused on morbidity and identified drivers of risk via multivariable linear regression modeling.

Results:

243 patients who underwent surgical closure of a VSD were included. The median age at operation was 168.0 days (range 17 – 6898), the median weight at operation was 6000 grams (range 2100 – 102000). No deaths occurred. Only two patients (0.8%) had a permanent heart block requiring pacing. In total only seven patients (2.9%) of the patients had a major adverse event. A lower weight at operation resulted in a longer stay and a longer ventilation time, but did not increase the risk of complications or major adverse events.

Conclusions:

Contemporary results of a surgical VSD closure are excellent. The procedure is safe with major adverse events occurring in only 2.9%. Low weight at operation is not associated with an increased risk of complications or major adverse events but is associated with increased ventilation time and a longer hospital stay. Therefore surgical VSD closure is a safe procedure in all patients regardless of their weight.