Evaluation of the Adult Congenital Heart Surgery Mortality Score at Two European Centers.

The adult congenital heart surgery (ACHS) score was derived from The Society of Thoracic Surgeons Congenital Heart Surgery Database. The score was validated with data for 1,603 operations and reached a good predictive power. We sought to evaluate its predictive power for 1,654 operations performed in two European centers. Data of all consecutive patients aged 18 years or more who underwent surgery for congenital heart disease between 2004 and 2013 at center 1 (n = 830) and between 2005 and 2016 at center 2 (n = 824) were collected. Mortality was defined as hospital mortality or mortality within 30 days after surgery. The discriminatory power of the ACHS score was assessed using the area under the receiver-operating characteristics curve (c-index). During the examined 13-year period, 1,639 operations of 43 different procedural groups were eligible for scoring. The most frequent procedures were closure of atrial septal defect (n = 175, 10.7%), repair of partial anomalous pulmonary venous connection (n = 117, 7.1%), and aortic valve replacement (n = 112, 6.8%). Hospital mortality was 3.1%. The procedures with the highest mortality were heart transplantation (3 of 11, 27.3%), mitral valve replacement (9 of 39, 23.1%), and systemic venous stenosis repair (2 of 9, 22.2%). The c-index for the ACHS
The mortality score was 0.760 (0.750 in center 1 and 0.772 in center 2). The ACHS score reached similar, good predictive power in two different centers. The score is a useful tool to analyze surgical outcomes and to support individual decision making.