**Legends of the Supplementary figures**

**Supplementary figure 1.** Surgical strategy selection flowchart based on a new classification system of coarctation of the aorta.

EEE: end-to-end anastomosis; EEEA: extended end-to-end anastomosis; ESA: end-to-side anastomosis

**Supplementary figure 2.** Freedom from reintervention (surgical or balloon dilation). Green shadow shows the 95% confidence interval.

**Supplementary figure 3.** A modified end-to-end anastomosis combined with subclavian artery flap aortoplasty. The first patient’s (A), (B) preoperative computed tomography (CT) angiography and (C) postoperative CT angioplasty; as well as the second patient’s (D), (E) preoperative CT angioplasty and (F) postoperative CT angioplasty scans.