**SUPPLEMENTARY DATA**

**EOA and flow rate conditions:**

In high mean flow rate conditions (Q>250 ml/s), an EOA of 1 cm² corresponded to a MG of 33 mmHg, and a MG of 40 mmHg corresponded to an EOA of 0.9 cm².

In normal mean flow rate conditions (Q 200-250 ml/s), an EOA of 1 cm² corresponded to a MG of 21 mmHg, and a MG of 40 mmHg corresponded to an EOA of 0.74 cm².

Finally, in low mean flow rate conditions (Q<200 ml/s), an EOA of 1 cm² corresponded to a MG of 9 mmHg, and a MG of 40 mmHg corresponded to an EOA of 0.51 cm².

**Figure 1 online**: Correlation between mean gradient (MG) and effective orifice area (EOA) obtained from the continuity equation, depending on mean flow rate Q.

***Legend***: Squares: severe aortic stenosis. Circles: non-severe aortic stenosis. Green: Q > 250 ml/s; orange: Q 200-250 ml/s; red Q < 200 ml/s.