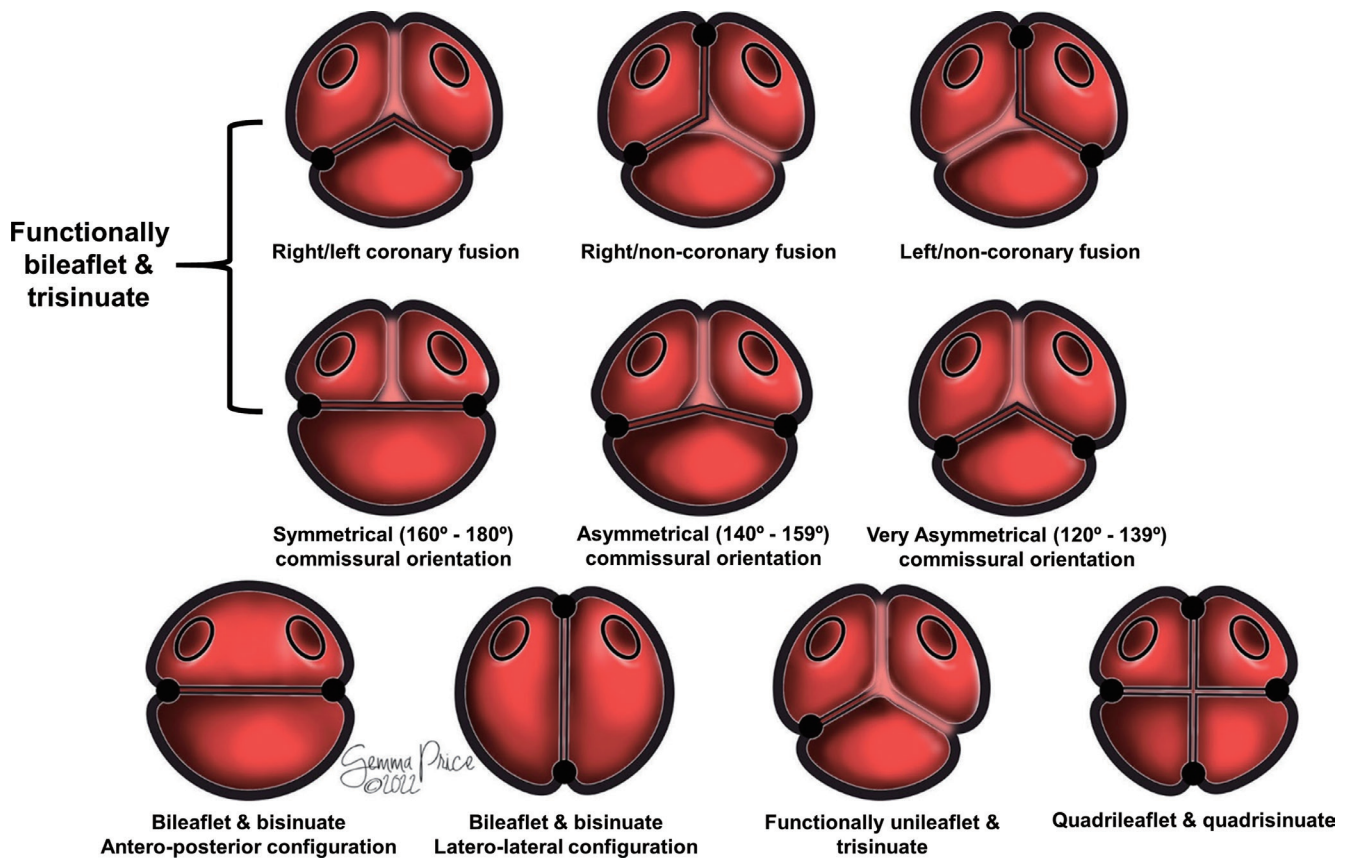


**Figure S1** Three-dimensional volume-rendered computed tomographic reconstructions of a functionally unileaflet valve with a trisinate aortic root are depicted. (A,B) The short axis of the aortic root in diastole (A) and systole (B) are demonstrated. The plane of the virtual basal ring is colored green in all panels. The single commissure is shown by the white star with red borders. The apices of the hypoplastic interleaflet triangles are marked with green and yellow stars. (C) A long axis view highlights the angle of valvular opening (white hashed lines). (D-F) The blood-filled cavity of the aortic root is depicted, with variable degrees of hypoplasia of two of the three interleaflet triangles. (G-I) Corresponding virtual dissections during systole are depicted. L, left coronary leaflet or sinus; N, non-coronary leaflet or sinus; R, right coronary leaflet or sinus; LCA, left coronary artery; RCA, right coronary artery.



**Figure S2** The drawings demonstrate a simplified, yet inclusive classification scheme of the congenitally malformed aortic root recognizing the components of the aortic root, namely the leaflets, sinuses and interleaflet triangles.