A 3-month-old boy was referred to our hospital for diagnostic work-up of recurrent tachyypnoea. Physical exam revealed an infant of normal weight and height with slightly increased inspiratory effort. Pulse oximetry and laboratory findings were unremarkable.

Chest radiography demonstrated the upper mediastinum covered by a large thymus but no specific abnormalities.

Echocardiography revealed a double aortic arch with two normal sized arches clasping around the trachea (Panel A, subcostal view, and Panel B, suprasternal view; see Supplementary material online, Videos S1 and S2). On both sides, the carotid and subclavian artery were arising from the ipsilateral arch and the descending aorta was located on the left side. Computed tomography confirmed the diagnosis (Panel C). Surgical repair through left posterolateral thoracotomy was performed by resection of both the left ligamentum arteriosum and the isthmus of the left aortic arch (Panel D, dotted lines indicate intended cutting lines and arrows indicate the suture lines after resection).

Double aortic arch and other vascular rings are rare causes of airway obstruction. There are reports on patients treated for chronic bronchial asthma for more than five decades before the double aortic arch was diagnosed (Asian Cardiovasc Thorac Ann 2012;20:338–340). Such reports emphasize the need to consider vascular rings in the differential diagnosis of patients with recurrent respiratory symptoms at any age (Pediatr Cardiol 2012;33:607–617). In children, a double aortic arch can be easily diagnosed by echocardiography but examination from the suprasternal notch enables to detect the anomaly also in adults. Computed tomography or magnetic resonance imaging ensures the diagnosis at any age and help to schedule the curing surgery.

Panels A–D. A, anterior; AAo, ascending aorta; DAO, descending aorta; H, head; L, left; LAA, left aortic arch; Lig.art, ligamentum arteriosum pulmonary artery; LSA, left subclavian artery; LV, left ventricle; P, posterior; R, right; RAA, right aortic arch.

Supplementary material is available at European Heart Journal online.

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