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Frequency of emergencies in adults due to unrecognized coarctation of the aorta

To the Editor,

Coarctation of the aorta is a congenital aortopathy with a narrowed aortic segment as the typical entity that is localized mostly between the left subclavian artery and the ligamentum arteriosum. The obstruction to aortic blood flow through this narrowed segment is serious, and emergency life-threatening complications may arise (heart failure, refractory arterial hypertension, hypertensive crisis, aortic complications including dissection or rupture, infective endocarditis, cerebrospinal hemorrhagic or ischemic complications, and cardiac arrest). Because the vast majority of coarctations are diagnosed and frequently corrected during childhood, native coarctations identified for the first time in adulthood are rare, especially when the adult presentation is emergent. However, the frequency of emergencies in adults due to previously unrecognized coarctation remains unknown (1). Thus, we provided this retrospective study based on a hospital database screen using the code for coarctation of the aorta - Q 25.1.

From a total of 2 105 000 inpatients (40 500 inpatients/year), there were 9 adults (34±19 years; 56% men) in the 52-year period (1960–2012) under the care of the University Hospital (catchment region of 19 235 km² and 2 019 804 inhabitants) because of emergencies in adulthood due to unrecognized and significant coarctation (upper–lower body blood pressure gradient and/or invasive peak to peak pressure gradient and/or Doppler systolic mean coarctation gradient ≥20 mm Hg and/or coarctation segment narrowing to 0–8 mm). The frequency of emergencies in adults due to unrecognized coarctation was once per 6 years and the types of emer-

gency were as follows: acute heart failure (34% both genders), spinal complications (33% men), hypertensive crisis (22% women), and aortic complications (11% man). The mean age of adults in all emergencies due to unrecognized coarctation was 34±19 years, with a trend to be lower in men (25 years) than in women (46 years). Amongst women, 75% had a maternity history, all prior to the emergency diagnosis of coarctation. All 9 adults are still alive (recent age 54±20 years); significant cardiac residues persist in 44% and intra-cardiac metallic material is present in 33%.

Thus, the authors conclude that professionals in centers providing non-pediatric general cardiovascular services may see emergencies in adults due to unrecognized coarctation sporadically, on average, once every 6 years. Unfortunately, there are no relevant comparable data because this is the first cohort-based study (apart from case reports and necropsies). However, Oliver et al. (2) retrospectively found 4 adults with aortic complications due to known native mild coarctation during the 13-year period (1990–2002), which equates to a frequency of once every 3 years. Hannoush et al. (3) in his retrospective analysis of adults hospitalized in the 20-year period (1980–2000) for various health problems found 3 coarctations that had been diagnosed in adulthood representing a frequency of once per 6.7 years, ignoring manifestations.

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