

Editorial

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SCREENRA: A window to the best diagnosis, monitoring, and management of Abdominal Aortic Aneurysms in emerging economies.

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ARTICLE INFORMATION

Received on June 10, 2026.

Accepted after review on June 10, 2026.

www.revistafac.org.ar

There are no conflicts of interest to disclose.

Keywords:

Abdominal aortic aneurysm,
echocardiography,
screening.

ABSTRACT

In the study Prevalence of Abdominal Aortic Aneurysm through Echocardiographic Screening in a Population over 50 Years of Age: Argentine Multicenter Registry (SCREENRA) – Argentine Federation of Cardiology, the following question was raised: since it is an incidental diagnosis or one that is not detected until complications occur, can ultrasound identify aneurysms in early stages and favor their clinical follow-up?, showing interesting results that are applicable to emerging economies in countries with low–medium and medium-high economic incomes.

In 1996, during my first year of residence in Internal Medicine in the Emergency Unit of the Hospital General de Enfermedades del Seguro Social, I had a male, 54-year-old patient with acute abdominal pain of sudden onset, sharp and radiating to the back. The patient was admitted in hemodynamic shock and developed fatal cardiorespiratory arrest six minutes after arrival, with abdominal aortic dissection being determined as cause of death.

This experience was my first meeting with a pathology of catastrophic course. In the health care systems of emerging economies, this scenario poses two critical issues: the technical feasibility of a timely diagnosis in ER services (nonexistent in our nineties' reality, I'm not sure if even today) and the urgent need to implement efficient cardiovascular prevention strategies. Answering these questions is still a priority challenge for the low-medium income countries, and even for the medium-high ones.

Abdominal aortic aneurysm (AAA) is a located dilatation in the inferior part of the aorta, characterized by aortic diameter ≥ 1.5 times greater than the normal diameter at the level of the renal arteries (approximately a minimum diameter of 30 mm).^{1,2} In spite of the previous reports suggesting an increasingly greater load of AAA, in terms of new cases and deaths, the data from the last two decades suggest the contrary, with marked decreases in incidence and mortality, particularly in Denmark, Sweden, New Zealand, the United Kingdom and the United States.^{2,3,4,5} The decrease in the prevalence of smoking, observed in some high income countries, could have driven this decrease.⁶ Besides the lower exposition to risks, using antihypertensive drugs and cardioprotective medications in many high income countries may have also contributed to this decrease.⁷ However, in many low and middle income countries, the growing prevalence of smo-

king, hypertension, harmful consumption of alcohol and many cardiovascular risk factors are continuously notified, suggesting a possible growing load of AAA, particularly with a general response of relatively deficient public health.^{6,7}

Epidemiological reports about AAA vary according to age, sex and geographical location.^{7,8} The reports of programs of population screening reveal a significantly greater prevalence in men, with rates ranging from 1.9% to 18.5% and between 0.1% and 4.2% in women.⁹ Most studies have identified an advanced age, male sex, smoking, hypertension and family history of AAA as the most significant risk factors driving the load of this disease.^{10,11} Mortality also varies between countries and is usually related with pre-hospital response, care in the ER, hospital capacity and the type of intervention, and repair after AAA rupture.^{7,12,13}

Argentina is classified as a medium-high income economy, a group of countries that live with high levels of poverty (affecting more than 50% of the population).¹⁴ Therefore, seeking accessible strategies is indispensable in these environments.

In the prevalence study of abdominal aorta aneurysm by echocardiographic screening in a population older than 50 years: Argentine multicenter registry (SCREENRA) – Argentine Federation of Cardiology, the following issue was raised: as this is an incidental diagnosis or is detected only when complications arise, can ultrasound identify aneurysms in early stages and favor their clinical monitoring?

By cardiovascular or abdominal echographic studies made in multiple centers in Argentina, a multicenter, observational, cross-sectional and descriptive study of a screening program was carried out. In it, the anteroposterior and cross-sectional diameters of the abdominal aorta were measured in people older than 50

years with risk factors for abdominal aorta aneurysm (AAA). There were 2148 patients included with an adequate distribution by gender, among which 77 cases of AAA were detected, representing a global prevalence of 3.58%, with most presenting in people older than 65 years. One the most relevant hypotheses was that echography or ultrasound, in their different modalities, is usually cost-effective, repeatable, safe, free from radiation and harmless. Most of all, it can be applied in different levels of care and it is very useful for follow-up and surveillance of AAA.

Color Doppler echocardiogram being the study that with greater frequency allowed to perform the abdominal aorta screening (1489 patients – 69.3%) was within the most important conclusions. In scenarios where there are no national screening programs, a timely detection during imaging studies represents a cost-effective strategy, so the evaluation of the abdominal aorta during transthoracic echocardiogram becomes particularly relevant, mainly in patients with a cardiovascular profile similar to those associated with AAA. Therefore, its results endorse the incorporation of the abdominal aorta evaluation as a supplement to the usual echographic tests; even in the field of primary care by trained physicians, improving early detection of AAA by a simple and cost-effective method, which in general we all have available.

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