An Increasing EVAR Population

BY GAUDENCIO ESPINOSA, MD, PHD

Since the first Brazilian case of endovascular abdominal aortic aneurysm repair (EVAR) in 1996, more than a decade ago, this type of procedure has become widespread in Brazil. Due to limited experience in the beginning, EVAR procedures were primarily undertaken by a multidisciplinary team composed of vascular surgeons, interventional radiologists, and/or hemodynamicists. With the continued development of endovascular skills, however, EVAR is now predominantly performed by vascular surgeons in Brazil.

Among the Brazilian population, there are approximately 20 million people over 65 years of age. If we consider that the abdominal aortic aneurysm (AAA) incidence for this age group is approximately 1.5% to 2.0%, there are likely 300,000 to 400,000 patients living with this pathology in Brazil. Although this is the overall total, not every patient is in the indication range. Counting on the increase of life expectancy that has been recorded in Brazil, it is estimated that the elderly population may double by 2030. We believe that with the population aging, we must improve our screening methods to identify AAA cases effectively.

Today, the number of EVAR procedures being performed annually ranges between 1,800 and 2,000, which still represents a very small group of patients receiving treatment considering the wide potential of this technique. However, Brazil is still the third largest endovascular market in the world. We expect a great increase in the number of patients treated in the next several years.

In Brazil, the evolution of EVAR does not differ from other major international reports. Initially, the endovascular indications were restricted to high-risk and perfect-anatomy patients. With the experience gained and the technological improvements of the endoprostheses and delivery systems, this technique has been widely indicated. The most significant limiting factor may still be the anatomical features of the aneurysm, which will represent less of a problem as the technology continues to improve. In centers with high levels of experience in Brazil, the ratio of EVAR procedures can reach 70% of AAA cases.

There are other factors that may influence the procedure indication, such as the increasing level of patient education. In the past, the surgical indication was almost entirely a medical decision. Today, the type of procedure selected is increasingly influenced by patient choice.

There is still uncertainty as to the role of EVAR in younger patients due to the limited follow-up data concerning material fatigue. However, a patient under 60 years of age with several comorbidities may be a good candidate for EVAR.

Considering the high material cost and the Brazilian economic reality, the majority of endovascular procedures are undertaken through private medicine in patients with health insurance. Two years ago, public reimbursement was approved, raising the expectations of lower prices because of increased endoprosthesis usage. But compared to open surgery, endovascular repair is still more expensive.

Most of the American- and European-approved devices are used in Brazil. Besides those devices, there are two national brands, which are Braile (Braile Biomédica, San Jose de Rio Preto, Brazil) and Apollo (Nano Endoluminal, Florianopolis, Brazil). The most frequently implanted endografts are the Talent (Medtronic, Inc., Santa Rosa, CA), Braile, and Zenith (Cook Medical, Bloomington, IN) devices. In the future, we believe branched endoprostheses may be more effective and easier to deliver and implant at the aortic arch compared to the visceral arteries. As the supra-aortic trunk's evolvement is more frequent than in visceral arteries, the branched endoprothesis might also benefit a greater number of patients, maybe more than 5% of the cases. On the other hand, the high cost of scientific research for visceral branch devices may not justify the benefits for treated patients, which may be less than 5% of the cases.

We believe that with the success of the minimally invasive procedure, the paradigm of "great surgeons, great incisions" must be changed into "great surgeons, minimal incisions." ■

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