Ten Years of EVAR in China

BY JING ZAIPING, MD

In March of 1997, I performed the first endovascular aneurysm repair (EVAR) in China, and during the next 10 years, this technique developed rapidly throughout the country. Now, there are more than 50 hospitals that can complete this procedure, and approximately 500 cases of EVAR are reported annually in China. However, nearly 50% of the cases were treated by the same few vascular centers in Shanghai and Beijing.

CHOOSING EVAR

According to the 10-year experience in China and the outcomes of some clinical trials and registries in Europe, such as EUROSTAR, most vascular surgeons in China now believe EVAR is a safe and effective method for abdominal aortic aneurysm (AAA) treatment, especially for patients who are elderly and have other complications. When the patient is a candidate for both open and endovascular repair, the experienced physician's first choice is EVAR, but the inexperienced physician may opt for open repair. When the patient is relatively young and healthy, we choose EVAR more prudently. However, the patient and his or her relatives always make the ultimate decision.

In 2006, AAA patients who were anatomically suitable for both EVAR and open repair were treated with either option equally, although the number of EVAR treatments is increasing yearly. However, EVAR will likely not dominate AAA therapy in the near future in China.

FINANCIAL LIMITATIONS

There are at least two barriers that restrict the development of EVAR. The first is a financial problem. In China, the stent graft is very expensive, but the charge for the open operation and hospital stay is relatively cheap. The cost of an imported stent graft is approximately $20,000, (eg, the Talent [Medtronic, Inc., Santa Rosa, CA] stent-graft system costs ¥135,000), and the domestically made products also exceed $10,000. If a patient chooses EVAR, he or she will spend nearly $25,000; if the patient chooses open repair, the price of a vascular prosthesis is less than $2,000, and he or she will spend no more than $10,000. When a patient is poor and without insurance, he or she would prefer open repair rather than EVAR.

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FOLLOW-UP AND LONG-TERM OUTCOMES

The close follow-up required after EVAR is also a barrier, often making the patient feel uneasy about the long-term outcome. This uncertainty may be greater if the procedure were performed by a physician who is still in the learning phase. Some patients are also concerned that the mortality and morbidity rates of EVAR are not less than the open repair. In our center, the perioperative mortality rate of EVAR is less than 3%, which is similar to our rate for open repair. The morbidity and hospital stay for EVAR are less than open repair, so the short-term follow-up outcome of EVAR surpasses the open operation. However, the long-term follow-up is still uncertain. Some patients who undergo EVAR require a second procedure for the stent graft migration or for an enlarged aneurysm that was the result of an endoleak. We had a female patient whose aneurysm ruptured 7 years after EVAR. During the second operation, a hole was found in the bifurcation of

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EVAR in China

the first stent graft, and we saved the patient by implanting another aorto-uni-iliac stent graft and performing femoral-femoral bypass.

Therefore, we still suggest that a patient who underwent EVAR should follow-up with a yearly CTA.

LOW-RISK AND SMALL ANEURYSM PATIENTS

An important question to answer is the best way to approach a low-risk patient with an AAA not larger than 5 cm in diameter. This is the most common issue discussed in our symposium. According to my own experience, if these patients are usually more suitable for EVAR anatomically, the procedure is typically simple and rapid, the incidence rate of complications such as endoleak, is low, and the long-term outcome is very good. If we wait until the aneurysm enlarged, the patient will be older and weaker, the neck of the aneurysm will be more tortuous, and, therefore, the difficulty and risk will be increased. The less-invasive superiority of EVAR is not only displayed in high-risk patients but also in small aneurysm or low-risk patients.

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CURRENT DEVICE USE

Today, the most common stent graft devices used for EVAR in China are the Talent and the Zenith (Cook Medical, Bloomington, IN). The distribution of the market is approximately one-third for Talent and one-third for Zenith. The remaining one-third of the market is composed of domestic-made products. More than 90% of EVAR procedures were performed by vascular surgeons; the remaining procedures were performed by radiologists and cardiologists, although the vascular surgeon's role will continue to dominate in the future. ■

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