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Dear Editor:

We were very interested to read the review “Interventional treatment of pain in refractory angina” by Milos Dobias et al. The authors presented an excellent review of antianginal interventional techniques and methods. However, one emerging innovation for the treatment of patients suffering from refractory angina pectoris (RAP) was overlooked, namely that of coronary sinus intervention. We would ask for the opportunity to provide the readers with supplementary information about the Neovasc coronary sinus reducer stent (CSRS) for the treatment of chronic RAP.

In the mid-1990s, we initiated an unusual, novel approach to support the ischemic myocardium. We suggested catheterizing the coronary veins instead of the coronary arteries, and reducing the coronary sinus diameter rather than expanding a narrowed coronary artery. Initially, we studied our novel approach in pig models, when the coronary sinus diameter was reduced to 3 mm with an hourglass-shaped, balloon-expandable stent, developed especially for this purpose. Eight to 12 weeks after stent implantation, we were surprised to find epicardial and intra-myocardial neovascularization. After a few years of research and development we manufactured the first percutaneous intravenous CSRS and called it “Neovasc”, later known as Neovasc Medical, Inc.

The first prospective, open-labeled, safety feasibility human study began in 2004 (ref.3). The CSRS was implanted into 15 patients with angina pectoris refractory to medical treatment. All patients underwent uneventful implantations without procedure-related complications and were discharged from hospital 1 to 2 days post procedure. No major adverse cardiac events were reported during a 6-month follow-up period, at which time most of the patients had improved Canadian Cardiovascular Society (CCS) score diminished from a mean of 3.3 at baseline to 2.0 at 6 months (n=20, P<0.01), and exercise duration was prolonged from 3:16 to 5:16 min (min:sec; n=8, P=0.05). Thallium SPECT summed stress score and summed difference score were both reduced (n=9, 21.5±10 vs.13.2±9, P=0.01, and 11.1±6 vs. 4.7±4, P=0.007, respectively). Wall motion score index at peak dobutamine infusion was also significantly improved (n=8, 1.9±0.4 vs. 1.4±0.4, P=0.046).

In conclusion, CSRS implantation seems to be a safe procedure, providing optional treatment for the improvement of quality-of-life for the many patients suffering from “no-option” RAP.
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Conflict of interest statement: Dr. Yoav Paz and Dr. Amihay Shinfeld are the inventors of the Neovasc Coronary Sinus Reducer Stent. Currently none of the authors have any commercial or other association with the company whose product is the subject of the review or with a company that manufactures comparable products.

REFERENCES


