New evidence for benefits of transcatheter edge-to-edge repair in secondary tricuspid regurgitation

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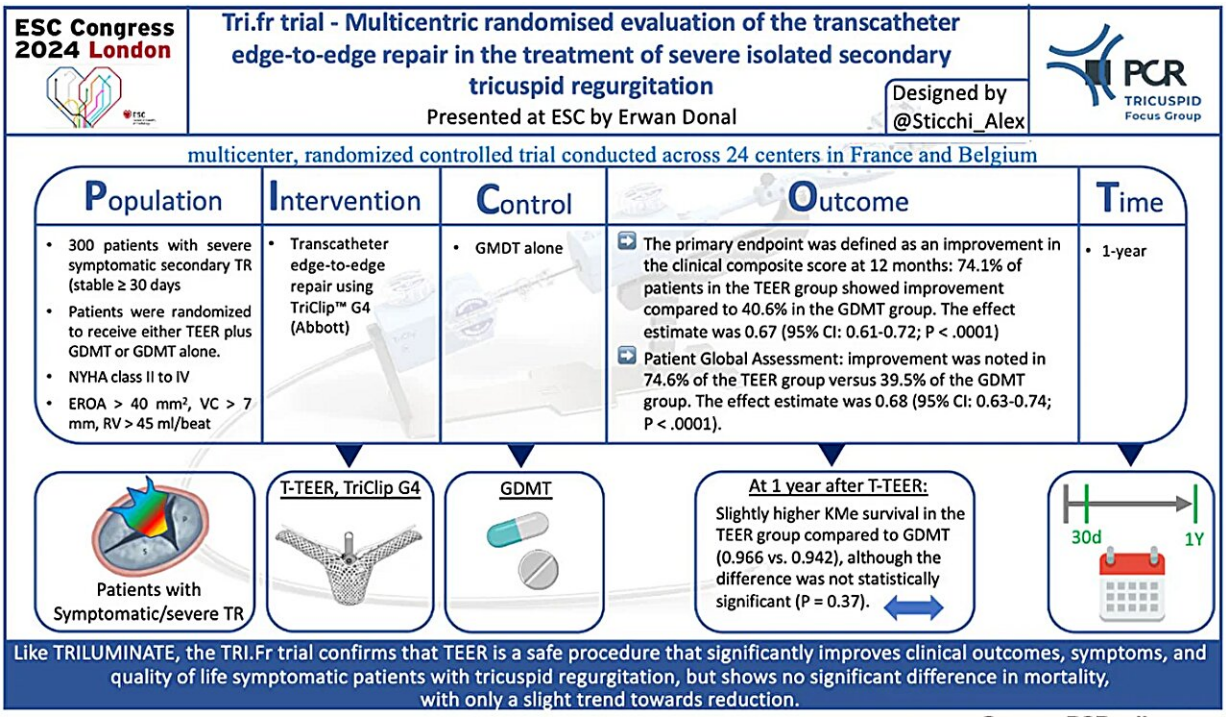

Tri.fr trial PICOT scheme Designed by Alex Sticchi. Source: PCRonline

Tricuspid transcatheter edge-to-edge repair (T-TEER) significantly reduced the severity of secondary tricuspid regurgitation and improved quality of life after one year, according to research presented in a Hot Line session August 31 at ESC Congress 2024.

Tricuspid regurgitation (TR) can result from intrinsic abnormalities of the tricuspid valve (i.e., primary TR), remodeling of right heart chambers (i.e., secondary TR) or cardiac implantable electronic devices. It can cause fatigue and accumulation of fluid in the abdomen and lower limbs. Patients may have severe functional deficits because of reduced cardiac output, with renal and liver impairment.

Professor Erwan Donal from the Hospital of Rennes, France, explained why the Tri.fr trial was conducted. "Patients with severe secondary TR often have reduced quality of life and a poor prognosis, with many ineligible for surgery due to the associated risks.

"In common with others, we were interested in exploring T-TEER as a new treatment option and we conducted the investigator-led Tri.fr trial to test this approach on top of optimal medical therapy. The benefits of T-TEER plus strict medical therapy and management in terms of reducing the impact of TR on patients' daily lives are highly encouraging."

The Tri.fr trial was an open-label randomized trial conducted in patients who had symptomatic, severe secondary TR despite medical management, were stable for at least 30 days and were ineligible for surgical correction. Participants were randomized in a 1:1 ratio to receive either T-TEER in addition to optimal medical treatment or optimal medical treatment alone.

The primary endpoint was the Packer composite score (combining New York Heart Association [NYHA] class, patient global assessment [PGA] and major cardiovascular events: all-cause mortality, cardiovascular mortality, tricuspid valve surgery, heart failure hospitalizations, cardiovascular and non-cardiovascular hospitalizations). Secondary endpoints included components of the primary composite, severity of TR assessment and quality-of-life improvement using the Kansas City Cardiomyopathy Questionnaire score (KCCQ).

In total, 300 patients were recruited from 24 centers in France and Belgium. The mean age was 78 years and 54% were women. In total, 40% had been hospitalized for heart failure within one year before enrollment, and 15% had a cardiac implantable electronic device.

Rates of clinical composite endpoint improvement were higher in the T-TEER group than in the control group (74.1% vs. 40.6% respectively; p