

# NeSECC

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### 15 years experience with stroke volume reduction surgery

Background: Myocardial infarction (MI) especially if anterior or more frequently antero-septal may lead to a complex process called remodeling which is characterized by left ventricular dilatation, shape abnormalities and pump dysfunction. This complication occurs in about 30% of pts following an anterior MI despite successful coronary revascularization obtained by primary PTCA or thrombolysis. An enlarged ventricular volume represents a potentially lethal complication after MI and there is evidence that an increased end systolic volume leads to heart failure syndrome and affects prognosis. Recognition of this fundamental concept has led to develop treatment strategies to reduce ventricular volumes and several trials on medical treatment with ACE inhibitors, beta-blockers and other new drugs and studies on new devices or surgical operations like Batista operation aiming to reduce ventricular volume have been initiated and completed. Surgical ventricular restoration (SVR) also called Left ventricular reconstruction or Dor procedure is an effective treatment strategy that applies to not only the classic aneurysm but also to the dilated ischemic cardiomyopathy, either with akinetic or dyskinetic scar that aims to reduce ventricular volume, to restore a more normal ventricular curvature and to reduce wall stress.

Surgical procedure: the procedure is conducted on arrested heart with antegrade crystalloid cardioplegia after completion of complete coronary bypass grafting and mitral repair, if needed. The ventricle is opened longitudinally to the left anterior descending artery on the anterior wall. Anterior and septal wall scar is excluded by an endoventricular suture performed deeply in the ventricle oriented obliquely towards the septum and the aortic outflow tract to reconstruct ventricular cavity in an elliptical way. To size and re-shape the ventricle a device with conical shape, filled with saline at 50-60 ml/m<sup>2</sup> (mannequin by Chase Medical, Richardson, Texas) has been introduced since 2001. At the end of the procedure the ventricular opening is closed with a patch or with a direct suture.

Patients: Since 1989 1030 pts (mean age 67±8 yrs) with myocardial infarction and symptoms of angina and or heart failure have been operated by SVR at San Donato Hospital, Milano, Italy. LV volumes, the extent of asynergic areas, the remote non scarred regions, the presence of mitral regurgitation and ejection fraction are accurately assessed to give a correct indication for such type of intervention.



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