- I'm Antonio Popolo Rubbio. I'm a Interventional Cardiologist from IRCCS Poloclinico San Donato in Milan. And I'm here to present the results of a multicenter Italian registry about the use of MitraClip in Atrial Functional Mitral Regurgitation.

Study Background

As regards to the background of the study, we investigated this new specific sub-type of functional mitral regurgitation. Which is the so called, Atrial functional mitral regurgitation. This term has been introduced recently in the last ten years. And we consider atrial function mitral regurgitation in patients with a preserved ejection fraction with a left atrium dilation in presence of a mitral dilatation. So it's a new subtype of a aetiology of atrial functional mitral regurgitation and we do not have specific data about the outcomes of these aetiology in the percutaneous setting. So based on this we've decided to investigate the acute outcomes with the MitraClip and then the midterm outcomes with the clinical and the echocardiographic follow up.

MitraClip Procedure

The MitraClip procedure is an interventional procedure upon the mitral valve for a mitral regurgitation and it is indicated in patients considered at high risk for surgery especially elderly patients. With the MitraClip, we have many data regarding the outcomes in primary mitral regurgitation and also the functional aetiology and um, in our study we investigated a subset that was not investigated before and- which is not specifically addressed by the current guidelines. We have of course specific criteria of selection based on the anatomy. And in this regard, atrial functional mitral regurgitation has not specific criteria since yet.

Study Design and the Patient Selection Criteria

As regards to study design we conducted a multicenter retrospective registry, involving seven Italian centres at high volume for the MitraClip procedure. And in this case we analyzed retrospectively more than 1100 patients with functional mitral regurgitation. We evaluated if the patients presented their inclusion criteria with the finding before in this study. And then we selected 87 patients that were mainly diagnosed with iFMR. So after that we analysed that the acute technique as such so that the procedure after the MitraClip and we follow with the patients at 30-day and then the midterm follow up of two years in which we analysed at composite primary endpoint of overall cardiac death and heart failure hospitalisation rate.

Key Findings

From this study we got several important information. At first epidemiological data because after these retrospective analysis, after analysing more than 1000 patients, we found that iFMR presented the rate of about 80% of our core to functional mitral regurgitation patients. And we also observed that iFMR aetiology was more frequent in women. This is a result which is in line with previous studies and cohorts investigated iFMR in other settings. Maybe because of the high prevalence heart failure with preserved ejection fraction in women. Secondly, we found that iFMR did not particularly affect the technical subjects of the procedure. It was high with the technical success after the MitraClip of 97%. And the cumulative data of 30-day was a 5% considering that we have also a very elderly cohort because the median age of our population was 81 years old. And then, we also analysed that you hear kaplan-meier freedom from heart failure hospitalisation and overall cardiac death we found a rate of freedom from this endpoint of 55%. and if we compare these results with other sub-study of patients with iFMR and other fibrillation, we found that this rate is higher and maybe because despite the presence of atrial fibrillation which is a well known negative predictor of outcome. In virtue of the preserved ejection fraction Patients with iFMR presented better outcome when compared to patients with ventricular phenotype.

Which Patients Would Benefit the Most from this Procedure

The patients that can benefit from this procedure are patients with documented history of atrial fibrillation, so patients with heart failure with preserved ejection fraction with normal mitral valve leaflet so we do not have the generative pathology or mixology. And especially patients in optimal medical therapy who are symptomatic despite the use of the optimal medical therapy and our results confirmed that the MitraClip procedure can be safe and effective also in the elderly cohort.

Next Steps

The next step, to investigate are surely defined echocardiographic selection criteria for defining, iFMR and it would important especially for trials and registry design and then also to think about the possibility of combined percutaneous treatment. For example, MitraClip and direct or indirect percutaneous annuloplasty especially with patients with severe dilated mitral annuli.