Conclusion: Closing the Gap, Opening Options

A bright future for the MitraClip™ therapy.

The MitraClip™ technology (Abbott) has a 20-year history of enabling minimally invasive transcatheter edge-to-edge repair (TEER) treatment of patients with mitral regurgitation (MR). Although the MitraClip device restores leaflet coaptation in a way that seemingly mimics the surgical Alfieri stitch, the Clip's unique mechanism of action accomplishes more than a simple suture. With its locking mechanism, grippers, and Clip arms, the MitraClip device reduces the mitral valve (MV) annulus anterior-posterior (AP) dimension and interrupts its progressive enlargement. The unique annulus stabilization effect of the MitraClip device provides long-term MR reduction, promoting improved heart failure prognosis for years after device implantation. Finally, the dedicated delivery system design, made specifically for optimal MV access, enables procedure efficiency and predictability.

All four generations of MitraClip device designs have been robustly engineered and optimized with feedback from clinicians. The progressive enhancements to the device design—from introducing four Clip sizes, to adding independent leaflet capture, and enhanced steering precision and control—were based on user input on how new features could steadily improve patient clinical outcomes, broaden the range of treatable patient anatomies, reduce procedure times, and allow physicians to tailor the therapy to each patient for more optimal results. The 20 years of continual efforts and partnership with the physician community—including heart teams, interventional cardiologists, cardiac surgeons, and hospital administration staff—have established a level of care for patients that is unprecedented and paves the way for future device generations that could enable even better patient outcomes. In parallel, the MitraClip therapy has generated the largest body of clinical data in the TEER space with over 20 years of clinical studies evaluating the treatment of more than 80,000 patients. These studies spanning across each MitraClip device generation have demonstrated Abbott's ongoing commitment to innovation and to achieving improved outcomes for patients with MR. The data generated have further characterized the impact of MitraClip implantation on the MV annulus and left ventricle, providing insights on how the MitraClip device, with its stable locked Clip arms, safely supports the structures of the heart in a way that slows the progression of heart failure.

"Over the last 20 years, we have shaped the results of this revolutionary treatment of MR with the MitraClip device, especially for patients who had no other great options. And now, this therapy is being adapted and evaluated for the treatment of tricuspid regurgitation, opening even more possibilities."

"The best part of the journey was to see the outcome in patients, to see people who were suffering, some who were almost dying, and to see them back at life with minimal symptoms was the most dramatic thing. In fact, putting it very simply, the MitraClip therapy has added life to years and years to life."

–Saibal Kar, MD

Moving forward, the MitraClip therapy is being studied in new, expanded patient populations. The REPAIR MR (Percutaneous MitraClip Device or Surgical Mitral Valve Repair in Patients with PrImaRy Mitral Regurgitation who are Candidates for Surgery) trial (NCT04198870 clinicaltrials.gov) will evaluate the safety and effectiveness of TEER with the MitraClip device in patients with primary MR who are at moderate surgical risk and are candidates for surgical MV repair. The trial will generate contemporary clinical evidence comparing the MitraClip device and surgical MV repair.

Beyond the treatment of additional patient populations, the MitraClip system is a platform technology that can be leveraged to develop products for treating other valvular diseases such as tricuspid regurgitation. Elements of the technology can be used to develop future delivery systems for transcatheter MV and tricuspid valve replacement, chordal repair, and annuloplasty therapies. If the last 20 years and the more than 200,000 patients treated worldwide are any reflection of what's to come, the next 20 years look bright for the MitraClip therapy and the field of cardiovascular therapeutics. ■

The testimonials do not provide any indication, guide, warranty, or guarantee as to the response a patient may have to the treatment or effectiveness of the product or therapy in discussion. Opinions about the treatment discussed can and do vary, are specific to the individual, and might not be representative of others.

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