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**EFFICACY OF DUAL STRATEGY OF SOTALOL AND ELECTRICAL CARDIOVERSION WITH BALLOON MITRAL VALVOTOMY IN PERSISTENT RHEUMATIC ATRIAL FIBRILLATION WITH MITRAL STENOSIS**

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Sudhanshu Kumar Dwivedi, Sudarshan Kumar Vijay, Ram Kirti Saran, Varun Shankar Narain, Sharad Chandra, Rishi Sethi, Aniket Puri, Sudhanshu Kumar Dwivedi.  
*C S M Medical University, Lucknow 226003, India*

**Objectives** A few studies has shown that achievement of normal sinus rhythm (NSR) with amiodarone alone or in combination with direct current (DC) cardioversion is effective and superior to ventricular rate control in rheumatic atrial fibrillation (AF) with

mitral stenosis (MS), albeit at the cost of amiodarone related adverse effects. We aim to study the efficacy of a less toxic drug sotalol in this patient population.

**Methods** Patients of severe MS with persistent AF who were planned for balloon mitral valvotomy (BMV), received oral sotalol therapy 80 mg twice a day for 1 month. Patients who continued to have AF after sotalol therapy and BMV were DC cardioverted. All Patients who achieved NSR with sotalol alone or with DC cardioversion were given sotalol for 6 months. Primary end points of the study were (1) Rate of conversion to NSR with sotalol alone or sotalol with DC shock and (2) Proportion of patients maintaining NSR at 6 months. Secondary end points were improvement in NYHA class and exercise capacity (on Bruce treadmill protocol). Predictors of conversion to NSR were also identified.

**Results** A total of 37 patients with mean age of  $36.9 \pm 7.3$  (22 female and 15 male) were included in the study. Thirty-six patients were included in the final analysis. 14 (38.8%) patients spontaneously converted to NSR with sotalol alone and 18 (50%) patients achieved NSR with DC shock and sotalol therapy. Four patients failed to convert after DC shock. A total of 32 patients were evaluated after a follow up of 6 months. 27 (75%) patients maintained NSR with sotalol therapy at 6 months. Mean improvement in NYHA class and exercise capacity were 1.5 ( $p=0.001$ ) and  $4.3 \pm 1.0$  min ( $p=0.007$ ), respectively. On univariate analysis, Left atrial size  $<6$  cm, duration of AF  $<17$  months and age  $<45$  years were the only predictors of successful conversion to sinus rhythm. On multivariate analysis none of the variables were found to be significantly associated with outcome. None of the patients experienced sotalol related significant adverse effects. These results show equal efficacy of sotalol, when compared to results shown in previous studies with amiodarone, with no significant side effects.

**Conclusions** Sotalol therapy alone or in combination with DC cardioversion is effective in conversion and maintenance of sinus rhythm in rheumatic AF with mitral stenosis. This strategy significantly improves the cardiovascular morbidity in combination with BMV.