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Research Article

**A SHORT-TERM ASSESSMENT OF LA THROMBUS  
OCCURRENCE AMONG MITRAL STENOSIS (MS) PATIENTS  
REPORTED BY TEE (TRANSESOPHAGEAL  
ECHOCARDIOGRAPHY)**<sup>1</sup>Zunaira Khan, <sup>2</sup>Dr. Yashal Syed, <sup>3</sup>Dr. Ambreen Ashraf<sup>1</sup>DG Khan Medical College /Teaching Hospital Dera Ghazi Khan<sup>2</sup>Sir Ganga Ram Hospital, Lahore<sup>3</sup>Sir Ganga Ram Hospital, Lahore**Abstract:**

**Introduction:** Patients having mitral stenosis with atrial fibrillation (AF) are extra disposed to grow left atrial thrombus. General embolism, associated with LA thrombus is a familiar danger of Percutaneous Mitral Balloon Valvotomy of the mitral valve. Thus, the existence of LA thrombus is a contraindication to PMBV.

**Objective:** The aim of research remained to distinguish rate of LA thrombus through transesophageal echocardiography (TEE) in patients of tight MS in whom transthoracic echocardiography (TTE) may not notice any LA thrombus.

**Patients and Methods:** Our Short-term study was conducted at Allied Hospital, Faisalabad from January to August 2017. We appointed at about 110 enclosed patients having tight MS on the non-possibility successive sample. Information was poised after meting insertion measures. Patients were reserved in the research after attaining written up-to-date agreement. Signs were questioned by all the patients and the useful position was judged by the New York Heart Association class. Unhealthy patients remained pathologically achieved earlier from the process. TEE was used on a similar day prior to experiencing PMBV to see for mass in LA.

**Results:** Average age of patients remained 33.21 years plus SD was 12.4 years. There were 41(35%) man patients and 69(65%) women patients. LA thrombus was existing in 42% of patients on TEE in those 20 were men patients (53.74%) and 23 were women patients (33.86%).

**Conclusion:** Patients having mitral stenosis with AF are extra likely to grow LA thrombus. In the research, the rate of LA thrombus remained 42% noted, it is high. Because of the possible danger of embolization, it is powerfully suggested to achieve TEE in patients having standard TTE research prior to experiencing PMBV. The occurrence of the LA thrombus would be measured contraindication to PMBV of the mitral regulator.

**Keywords:** Mitral Stenosis, Atrial Fibrillation, Percutaneous Mitral Balloon Valvotomy.

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**INTRODUCTION:**

Mitral controller stenosis is tapering of mitral regulator opening that rises confrontation to lifeblood from LA to the left ventricle. MS frequently happens as a consequence of rheumatic disease but there are additional fewer mutual reasons too. At about 27% of patients have inaccessible mitral stenosis and at about 42% got mutually mitral stenosis and mitral vomiting. MS does not typically produce signs if it is Spartan that is mitral regulator zone is fewer than 1.2 cm [1]. In MS, body fluid over contaminated valve is abridged which consequences in expansion of LA for the reason that volume and compression excess. In MS, LA frequently bonds quickly in an uneven way which is known as AF [2]. Such patients are at huge danger of emerging LA thrombus owing to body fluid stasis in LA [3]. PMBV in patients having MS with LA thrombus is often related to thromboembolic proceedings. Those actions are most probably produced by embolization of LA thrombus, which is removed throughout the process. Therefore, the occurrence of LA thrombus is measured to remain contraindication to PMBV of the mitral regulator in patients having MS [4]. TEE has revealed to be the technique of optimal that is well improved as compared to TTE for documentation of LA thrombus. A research was led on 125 patients of tight MS in which TTE might not notice LA thrombus in 14 patients whereas TEE perceived LA thrombus in those 13 out of 14 patients (93.4%) [5].

The aim of this research was to regulate occurrence of LA thrombus by TEE in patients having fitted MS in which TTE process has been unsuccessful to notice LA mass. If that rate is knowingly greater than this, it might be suggested to achieve TEE in situations wherever TTE is negative for LA thrombus to evade thromboembolic problems [6].

**PATIENTS AND METHODS:**

Our Short-term study was conducted at Allied Hospital, Faisalabad from January to August 2017. The population of 110 respondents was designed with 90% confidence level, 6.7% margin of fault and enchanting probable percentile of LA thrombus perceived on TEE i.e. 93.4% patients in which TTE was unsuccessful to pick LA thrombus.

**Sample Technique:** Non-probability successive sample.

**Sample Selection:****a) Insertion Measures**

Fitted mitral stenosis, intentional to experience PMBV

Atrial Fibrillation, detected on ECG

Got negative TTE for LA thrombus

**b) Elimination Measures**

Unhelpful patients

**Data Collection:** 110 enclosed patients having fitted mitral stenosis satisfying insertion measures were registered in the research subsequently taking written up-to-date agreement. The demographic outline was gained as of patients. Signs were questioned from all the patients and practical position judged by New York Heart Association class. Unhealthy patients were pathologically achieved prior to the process. TEE was completed on a similar day prior to experiencing PMBV to watch out for mass in LA.

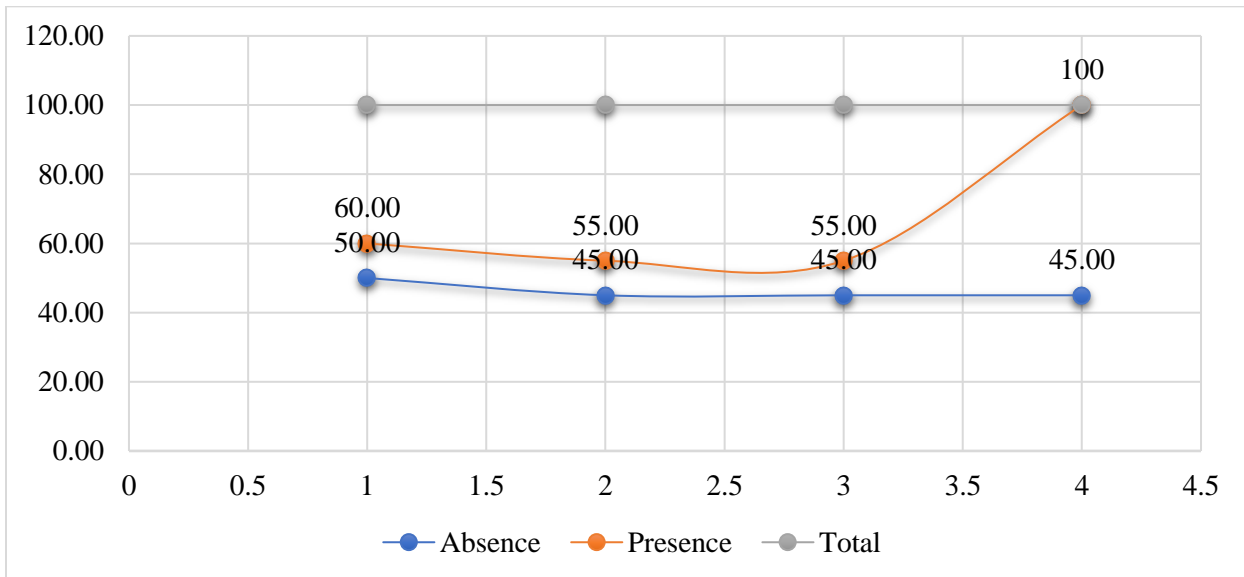
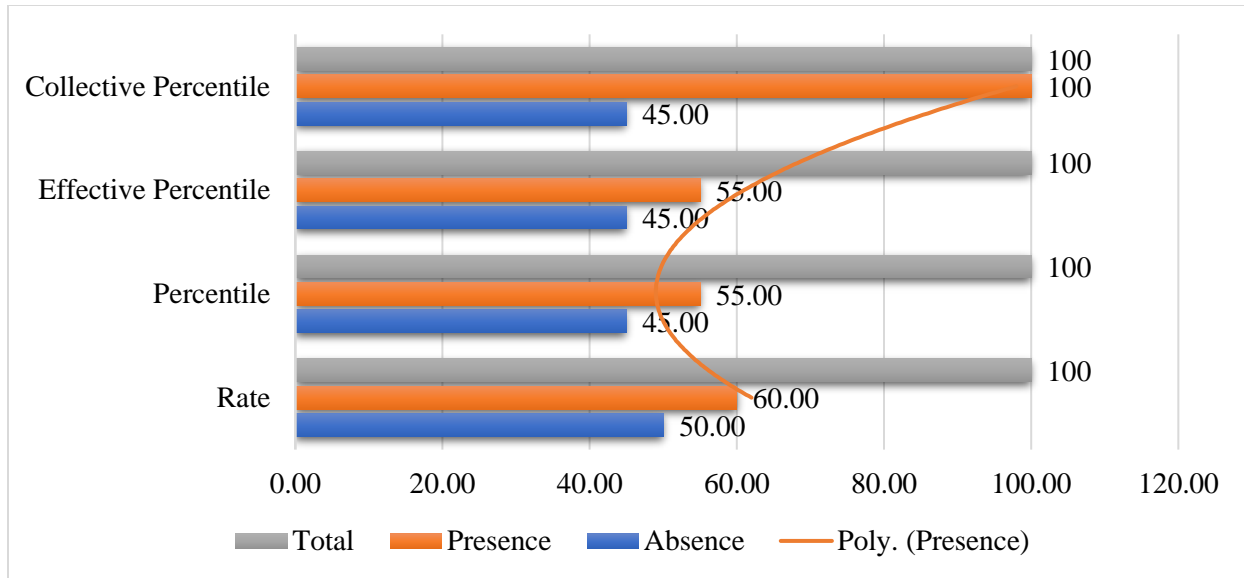
**Data Analysis techniques:** All statistics were investigated by SPSS. Measurable variables just like age were existing by average and standard deviation. Qualitative variables just like sex and occurrence or nonappearance of LA thrombus on TEE remained existing by rate and percentile.

**RESULTS:**

The average age of patients was 33.23 years and usual unorthodoxy was 12.14 years. Age variety was 63.01 years. Lowest age of patent in the research remained 17.01 years and extreme age variety was 79.01 years. Patients were separated into age sets of fewer than 22 years (8%), 22-44 years (78%), 47-63 years (19%) and extra 63 years (4%). In gender supply, there were 39(38%) men patients and 65 (65%) women patients. In TEE research, LA thrombus remained identified in 43% of patients having MS in whom TTE might not pick it. LA thrombus was found in 21 men patients (53.78%) and 22 women patients (33.84%). In age set circulation, LA thrombus was noted in 3 patients of age fewer than 22 years (36.37%), in 34 patients of age among 21-41years (64.05%), in 8 patients of age among 42-63 years (89.3%) and the ages of two patients were more than 62 years.

**Table: Supply of Patients by LA thrombus (100)**

Patient's Supply	Absence	Presence	Total
Rate	50.00	60.00	100
Percentile	45.00	55.00	100
Effective Percentile	45.00	55.00	100
Collective Percentile	45.00	100	100



**DISCUSSION:**

Patients having MS taking AF are susceptible to grow LA thrombus. Universal embolization is a familiar problem of PMBV of the mitral regulator in patients having MS with LA thrombus. Kulik DL described that 5% of patients having fitted MS who experienced PMBV advanced thromboembolic events [7]. Few types of research have described developed frequencies of just like problems [8-10]. The precise rate of embolization in patients having MS with LA thrombus is unidentified, but it might be expected that they are at advanced danger as compared to patients deprived of thrombus. The capacity to recognize and detached these patients at huge danger of universal emboli must knowingly

decrease illness of this process. TTE has little compassion for exposure of LA thrombus, predominantly mass in LA attachment [11]. TEE bounces greater conception of LA attachment, and earlier researches have revealed TEE extra complex sensor of LA thrombus. In current research average age of patients was  $33.21 \pm 12.14$ . As associated with the research of Niaz average age of patients remained  $29.89 \pm 13.52$ , which is similar to this research. In this research, there were 37-men (37%) and 63 women (63%) patients which are correspondingly similar to Niaz Z et al research, where 43 patients included men (38.6%) and 68 patients remained women (61.4%). In this research, LA thrombus on TEE was existing in 45% of patients having MS in whom TTE cannot

notice it. LA thrombus was extra usually existing in men patients (54.78%) in comparison to women patients (33.84%).

Farman MT et led the research in 110 patients of MS having AF in these there were 54 men plus 46 women. TTE was done in entirely all the patients and in 26% of patients, LA thrombus was noticed. TEE was done in residual 73% patients and extra 16 patients having LA thrombus was noticed in the subsection. Hence, the overall of 39% of patients having LA thrombus remained recognized which is similar to our research.

These research results are noteworthy as compared to those of Rao et al research who done TEE in a succession of 130 patients having stiff MS. LA thrombus was originated in 36 patients on TEE (29.34%). The research discoveries are substantial to those of Kronzon et al who described that 28% of patients who had experienced TEE earlier PMBV of mitral regulator were originated to consume LA mass. Research conclusions are too substantial as compared to those of Acarturk et al who described that 23.9% of patients experiencing PMBV of mitral regulator had obvious LA mass on TEE that was unobserved by TTE.

Sebastian F.T.M et al described 45% recognition of cardiac basis of an embolism on TEE in non-valvular patients having TIA and knock. In a minor set of 55 patients having MS and AF, Hwang et al initiate LA thrombus in 29 patients (58%) by TEE. In additional minor research of 23 patients having MS plus AF, Karatasakis et al perceived LA thrombus by TEE in 14 patients (51%). In huge research of 500 patients, Srimannarayana et al had described the occurrence of LA thrombus of 34.6%. In view of the great extent of research set, this might be measured typical character for the occurrence of LA thrombus in patients having acute MS and AF. Therefore, it might be determined that 1 of each 4 patients having acute MS and AF might consume an LA thrombus. Goswami et al surveyed 220 patients of fitted MS had defined AF as the sovereign dangerous influence for LA thrombus creation. Current research displayed that TEE might be carefully done and might precisely detect LA thrombus in patients of fitted MS having AF prior to experiencing PMBV of the mitral regulator in whom TTE might not distinguish a little thrombus.

### CONCLUSION:

Patients having rheumatic MS with AF are extra disposed to grow LA thrombus. TEE is improved as compared to conservative TTE in noticing LA thrombus in such patients. Due to the possible danger

of embolization in such patients, we sturdily endorse TEE afterwards with standard TTE research to classify LA thrombus prior PMBV. Credentials of LA thrombus would be measured contraindication to PMBV of the mitral regulator.

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