Methods: In this prospective observational study prospectively observed events were only included. The Rosendaal linear interpolation methodology was used for calculation of TTR.Based on individual TTR all patients were categorized into 4 quartiles, 1st quartile (<51%), 2nd quartile(51-58.15%), 3rdquartile(58.15-66.55%), highest quartile (>66.55%) all events distribution was compared with quartiles.
Results: Total of 256 patients were followed for 461 pt years. Patients in 1st quartile,had significantly higher risk of PVT(OR-22.78, P=0.0028),TEE(OR-9, P=0.041),and TBE(OR-26, P=0.0017)than highest quartile, whereas no significant difference for CE, MBE between 1stquartile and highest quartile. Patients in 2nd quartile had significantly higher risk for only TBE (OR-9, p<0.041) than highest quartile.PVT, TEE, TBE risk is significantly higher in lowest quartiles(<51%) whereas only risk of TBE is higher in 2nd quartile.There is no significant difference between 3rd and 4th quartiles for any event.
Conclusion: In patients with mechanical valve on LOAC therapy risk of events like PVT,TEE,TBE, correlates with low TTR<51%,whereas only TBE correlates with low TTR<58.15% thus optimal TTR for them is ABOVE 58%.Thus TTR can be used to predict risk of events like PVT,TEE,TBE in mechanical heart valve patients.

Tricuspid and pulmonary valve involvement in rheumatic heart disease

K.R. Patil, S. Prabhu, N.O. Bansal

J.J Group of Hospitals, Mumbai, India

Background: Right-sided valve abnormalities are less common than their left-sided counterparts. Furthermore, whilst organic rheumatic involvement of the tricuspid valve is not uncommon, it receives less attention than left-sided heart valves & frequently missed on routine clinical examination. Our aim was to study the prevalence of tricuspid and pulmonary valve involvement in rheumatic heart disease.
Methods: We prospectively studied 713 patients of rheumatic valvular heart disease from January 2011 to june 2014.Tricuspid and pulmonary valve was examined echocardiographically for stenosis and regurgitation.The severity was graded according to ASE guidelines.
Results: Among 713 patients of rheumatic heart disease studied,mitral valve involment was seen in 77% patients,aortic valve involvement in 56% patients while both mitral and aortic involvement was seen in 49% of patients.Among these patients,122 (17.11%) had organic tricuspid valve disease.In this 71 (58.19%) were females and 51 (41.8%) were males.Out of these total 122 patients, 78 (63.93%) had isolated tricuspid regurgitation, 44 (36.06%) had tricuspid stenosis with or without tricuspid regurgitation. 6 (4.91%) patients had isolated tricuspid valve stenosis. Functional tricuspid regurgitation was found in 406 (56.94)% patients.From total number of patients with organic TR ,19 (15.57%) had mild;68 (55.73 %) had moderate and 35 (28.68%) had severe tricuspid regurgitation.There was no single patient with organic pulmonary valve involvement.
Conclusions: We conclude that Rheumatic tricuspid valve disease is not uncommon among patients with rheumatic heart disease, but attracts less attention and might, therefore, be overlooked. Echocardiography is the most common diagnostic tool and is must for further management.Pulmonary valve involvement is very rare.Appropriate treatment of the tricuspid valve disease,-even when secondary to left heart diseases,may improve long term outcome.

Treatment and outcome of obstructive thrombosed prosthetic heart valves from a tertiary care hospital

Janapati Ramakrishna, N. Lalitha, R.C. Barik, A. Siva Prasad, N. Rama, B. Srinivas, M. Jyotsna, D. Seshagiri Rao

Nizams Institute of Medical Sciences, Hyderabad, India

Background: Obstructive thrombosed prosthetic heart valve (OTPHV) is a serious complication of mechanical heart valve replacement. There are no generally accepted criteria for management of these patients with obstructed prosthetic valves. In the present study we aimed to study the 30 day outcome of patients who presented with obstructed prosthetic mechanical heart valves to a tertiary care hospital.
Methods: A total of 22 consecutive patients presenting with 27 instances of PHVT were included in the study between and 2013 and 2014. The diagnosis of PHVT was established mainly by echocardiography by increased mean gradients across the prosthetic valve. The fibrinolytic agents used were streptokinase (STK) in 16 PHVT episodes and urokinase (UK) in 2 cases, 8 cases were directly referred to redo valve replacement surgery and 4 cases were referred to surgery after failed fibrinolytic therapy. One patient had 4 episodes of PHVT and shown improvement with fibrinolysis each time, and two patients had 2 episodes of PHVT. The efficacy of Fibrinolytic therapy or surgery was assessed from hemodynamic parameters derived from echocardiographic examinations as well as on clinical grounds and 30 day outcomes were analyzed.
Results: Among the 22 cases of PHVT 18 cases were involving the mitral valves only 4 cases were aortic mechanical prosthetic heart valves. Death occurred in 6 cases of 18 cases (33%) who were treated with fibrinolytic therapy with in 1 week of admission to the hospital and 4 PHVT episodes has shown only partial improvement and they were referred to the surgery. Death occurred in 3 cases of 12 cases (25%) who underwent redo prosthetic valve replacement .There were 4 documented embolic episodes occurred in the fibrinolytic group . No hemorrhagic episodes were documented.
Conclusions: These results indicate that redo surgical prosthetic valve replacement has a reduced mortality and complications rate in comparison to fibrinolytic therapy in patients with obstructed prosthetic heart valves.

Prevalence of coronary artery disease in patients with rheumatic and non-rheumatic valvular heart disease treated at Asian heart hospital, Mumbai

A. Amale, S. Dora

Asian Heart Institute and Research Centre Private Limited, Mumbai, India

Background: Although coronary artery disease (CAD) is the most common cause cardiovascular mortality worldwide but rheumatic heart disease (RHD) still continues to be one of the major CV

disease in developing country like India. Early detection and appropriate treatment of coronary lesions will help in reducing the morbidity and mortality in cases of Valvular heart disease undergoing surgical interventions. This study was undertaken to determine the prevalence of coronary artery disease in patients with rheumatic and non-rheumatic valvular heart disease undergoing valve surgery.

Aims: To estimate the prevalence of coronary artery disease (CAD) in valvular heart disease of rheumatic (RVHD) and non-rheumatic (NVHD) etiology, assessing possible predictive factors for the presence of CAD.

Methods: Retrospective analysis of data was performed on consecutive patients who underwent diagnostic coronary angiography to delineate coronary arteries prior to scheduled valve surgery.

Results: In all 105 patients were studied, out of which 35 (13(37%) male & 22(63%) female) were RHD patients with a mean age of 49 years and rest 70 (45(64%) male & 25(36%) female) were NVHD patients with a mean age of 61 years. Significant CAD was present in both the groups although the prevalence was lower in RHD patients (14%) as compared to NVHD patients (29%), p <0.001. However, RHD was not found to be a disease determinant as per logistic regression analysis and other parameters like age, gender, hypertension and diabetes were found to be significantly related. Patients with no chest pain were also found to be having high prevalence of CAD in both the groups.

Conclusion: We conclude that the prevalence of CAD in RHD although significant, is lower as compared to NVHD patients but the rheumatic etiology does not seem to have any beneficial effects on the prevalence of CAD. The lower prevalence has to be attributed to the demographic and clinical profile of the patients rather than any protective effect of RHD. Also we found that asymptomatic CAD is common in patients undergoing assessment for valve surgery. We therefore believe that routine coronary angiography is necessary for proper diagnosis in patients with valvular heart disease before surgery.

Peripartal hemodynamics in rheumatic mitral stenosis – An echocardiographic study

T. Jamuna Devi, M.S. Ravi, K. Meenakshi, D. Muthukumar, N. Swaminathan, G. Ravishankar, G. Justin Paul, S. Venkatesan

Madras Medical College, Chennai, India

Background: Mitral stenosis(MS)is the most commonly encountered valvular lesion in pregnancy.The mortality and morbidity are still significant.Factors that determine the maternal detoriation,fetal distress and ideal mode of delivery is poorly understood.In this context,this study is done to assess the mitral valve hemodynamics by echocardiography in pregnant females with mitral stenosis both prior to and after delivery.

Methods: This study is a single-centre prospective analytical study in which 15 consecutive women with rheumatic MS were examined.MS was assessed echocardiographically in all patients using My Lab Esoate echo machine.Transmitral mean gradient and mitral valve area (MVA) by planimetry were calculated using validated methods. Right ventricular(RV)systolic pressure was estimated from the peak velocity of the tricuspid regurgitation jet.Left atrial(LA) volume was calculated by area-length method and indexed LA volume derived from volume per body surface area.Comparisons were made between the echocardiographic measurement of the MVA,mean gradient,RV systolic pressure,and indexed LA volume in the late antepartum period and within 1 week postpartum.Data are presented as mean±1SD and the characteristics were compared using t test.A p value of less than 0.05 was considered statistically significant.

Results: The mitral valve area as measured by planimetry was 1.28±0.08 vs 1.3±0.07 (p=0.47),the mitral valve mean gradient was 14.6±2.08 vs 8.3±1.52 (p<0.001),RV systolic pressure was 38.6±8.08 vs 24.6±4.50 (p<0.001) and indexed LA volume was 74.3±11.5 vs 50.6±16 (p<0.001) before and after pregnancy respectively.There were no embolic events and no maternal cardiac deaths.Vaginal delivery was the mode of delivery in 80% (12 of 15)and Cesarean delivery in 20% of pregnancies (3 of 15)for obstetric indications.

Conclusion: There was no significant difference in the mitral valve area measured by planimetry during pregnancy compared with that measured after pregnancy.However, a significant decrease occurred in mitral valve mean gradient (43%), RV systolic pressure (36%), and indexed LA volume (31%)after pregnancy.In pregnancy,mean mitral valve gradients were persistently higher irrespective of the valve area. Pregnancy as expected confers definite hemodynamic stress in patients with mitral stenosis.However most patients were able to tolerate the surge in pressure gradient during the last trimester.

Pattern of arrhythmias following PTMC – An insight into patient and procedure related factors

S. Kumaran, M.S. Ravi, K. Meenakshi, D. Muthukumar, N. Swaminathan, G. Ravishankar, G. Justin Paul, G. Manohar, S. Murugan

Madras medical college, Chennai, India

Background: Our aim of the study is to analyse the arrhythmias occurring during PTMC using Accura ballon and it's impact on the outcome of procedure. Since the pattern of arrhythmias during the procedure depends upon the type of hardware used, cardiac status and the drugs taken by patient etc.This study intended to highlight the importance of maintaing adequte rate control, optimizing anti failure measures, and operators experience.

Methods: It is a single centre prospective analytical study carried out in tertiary care centre over a period of three months from April-June 2014.PTMC was performed on total of 45 patients with severe mitral stenosis having Wilkinson's score < 8 through right femoral approach with Accura Balloon, transseptal puncture done through modified Hung's technique.

Results: Out of 45 patients 30 are female and 15 are male .In our study sinus tachycardia was observed in 40% pts, non sustained RVOT ventricular tachycardia in 25% of pts, atrial tachycardia in 20%, atrial fibrillation with rapid ventricular response 10% and AV conduction block in 5%.Patients who had been stabilized on digoxin experienced less tachyarrhythmias of 15% .However they developed AV conduction block more frequently 20% . Patients who was on sinus rhythm pre proc edurally had less incidence of arrhythmias altogether 18% when compared to 82% pts not on sinus rhythm .20% of the patients developed non sustained ventricular tachycardia when the balloon accidently slipped into right ventricle and during LV angiogram pigtail hitching against LV free