

Clinical Study of Valvular Heart Disease

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Abstract: Background: A thorough understanding of the various valvular disorders is important to aid in the management of patients with VHD. We hereby thus study various presentations, distributions, complications and severity of patients presenting with valvular heart disease.

Materials and methods: 250 patients with valvular heart disease were enrolled and studied for demographic details, clinical presentation and complications

Results: In study of 250 patients, the most common valvular lesion was mitral regurgitation 114 (45.6%) out of which 75 (30%) were Isolated MR, MS with MR 30(12%) patients, MR with TR 7(2.8%) patients and MR with AR with TR 2(0.8%). other parameters as detailed in thesis.

Conclusion: Each valvular heart lesion presents with varied demographic characteristics with peculiar clinical presentation and complication rate.

Keywords: Valvular heart disease, demographics, presentations, complications, severity

THESIS SUMMARY

Introduction:

Valvular heart disease (VHD) is a result from damage or deterioration of the valve structures leading to some degree of stenosis, incompetence or both. Although valvular heart disease is less frequent than coronary disease, heart failure or hypertension, it is of importance because firstly VHD is still common and often requires intervention and secondly important changes have occurred as regards to presentation and complication over recent years. A better understanding of the natural history coupled with the major advances in diagnostic imaging, interventional cardiology, and surgical approaches have resulted in accurate diagnosis and appropriate

selection of patients for therapeutic interventions. A thorough understanding of the various valvular disorders is important to aid in the management of patients with VHD. We hereby thus study various presentations, distributions, complications and severity of patients presenting with valvular heart disease.

Materials and methods:

We enrolled 250 cases of valvular heart disease patients in the present study. Patients with native valvular heart disease of age > 12 years. cases of newly diagnosed adult patients with valvular abnormalities presenting to the medicine and Cardiology Unit from May 2010 to October 2012. All

patients aged 12 years and above are considered 'adult' and are managed by the adult Medicine. There is no upper age limit. A detailed clinical history including including various symptoms, past history of rheumatic fever, followed by systemic examination was done. Specific findings of rhythm of pulse rate, blood pressure, raised jugular venous pulse, oedema feet, were noted for each patient. A detailed cardiovascular systemic examination for specific findings of character of apex beat, character of S1, and S2, type of murmur were noted for all patients. A chest x ray postero anterior view was done in all patients and Cardio thoracic ratio was noted in all patients. A 12-lead electrocardiogram was done in all the patients to look for rate, rhythm, chamber

enlargement/hypertrophy .Each patient underwent echocardiographic evaluation and parameters like Left atrial (LA) dimensions, left ventricular ejection fraction (LVEF), left ventricular end diastolic dimension (LVIDD) , left ventricular end systolic dimension (LVIDS), valve area for stenotic lesions , pulmonary artery pressure (PASP) , for stenotic lesions mean gradient was calculated , and for regurgitate lesions Vena contracta and jet width was calculated.

Results:

Tin study of 250 patients ,the most common valvular lesion was mitral regurgitation 114 (45.6%) out of which 75 (30%) were Isolated MR , MS with MR 30(12%) patients, MR with TR 7(2.8%) patients and MR with AR with TR 2(0.8%). There were 78 (31.2%) cases of mitral stenosis ,with 25(10%) of Isolated MS, MS with MR 30(12%), MS with TR 13(5.2%), MS with AS 5(2%), MS with AR 3 (1.2%) and MS with AR with TR 2 (0.8%). There were 68 (27.2%) cases of aortic regurgitation with 35(14%) of Isolated AR and 25 (10%) of patients with AS with AR, 58(23.2%) cases of aortic stenosis out of which 28 (11.2%) oatients with Isolated AS. There were 24 (9.6%) of tricuspid regurgitation all associated with mitral or aortic lesions and no cases of tricuspid stenosis . It is noted that Isolated MS (25) was more common in females (15) than male (10) patients, in all other cases the lesions were more common in male patients.In case of mixed valve lesions MS with AR (3) was also more common in female (2) patients , all other cases of mixed lesions were more common in male patients. Dyspnea was present in 22(88.8%) patients.Dyspnea was present in 100% cases of Isolated MS, with 5(20%) patients of class I dyspnea, 7 (28%) patients with class II, 11 (44%) patients with class III dyspnea , and 2 (8%) patients with class IV dyspnea.In cases of Isolated MR dyspnea was present in 94.7% patients with 14 (18.7%) patients with class I dyspnea , 32(42.7%) patients with class II , 21(28%) patients of class III, and 4(5.3%) patients with class IV dyspnea. 4 (5.3%) patients did not have dyspnea. In cases of Isolated AR dyspnea was present in 88.6% patients with 5 (14.3%) patients with class I dyspnea , 16(45.7%) patients with class II , 9(25.7%) patients of class III, and 1 (2.9%) patients with class IV dyspnea. 4 (11.4%) patients did not have dyspnea . In cases of Isolated AS dyspnea was present in 82.1% patients with 2 (7.1%) patients with class I dyspnea , 16(57.1%) patients with class II, 5 (17.9%) patients of class III, and no patients with class IV dyspnea. 5 (17.9%) patients did not have dyspnea. In cases of mixed lesions dyspnea was present in 82.7% patients class I dyspnea with 7 (8%) patients Out of which 3 were with AS with AR, 3 with MR.class II dyspnea 33 (37.9%) patients with out of which, 13 were with MS with MR , 6 with MS with TR , 1 with MS with AS , 8 AS with AR, 2 with MR with TR, 2 with MS with AR with TR and 1 with MS with AR.

Conclusion:

Most common age of presentation of valvular heart disease was 41-50 years (35.2%). Male to female ratio was 1.48 :1. The most common valvular lesion was mitral regurgitation in 45.6% patients. Valvular lesions were more common in male patients except in cases of Isolated MS and MS with MR were there was female predominance. Most common presenting symptom was dyspnea (88.8%) , second most common palpitations (79.2%), followed by chest pain (56%) and syncope (4.8%). Syncope was seen mainly in cases of Isolated AS 10 (35.7%). Pulse was irregularly irregular in 55 (22%) patients . Irregularly irregular pulse was more common in patients with MS (28%). Mean systolic blood pressure(in mm of Hg) in Isolated MS is

121.68 , 125.52 in Isolated MR , 125.26 in Isolated AR , 125.93 in Isolated AS , 122.02 in mixed valve lesion.Mean diastolic blood pressure(in mm of Hg) in Isolated MS is 73.60 , 78.77 in Isolated MR , 45.80 in Isolated AR, 76.50 in Isolated MS and 70.23 in mixed valve lesion. On ECG Atrial fibrillation was more common in patients with Isolated MS (28%) P Mitrale was more common with Isolated MS (93.33%), P Pulmonale was More common in patients with Isolated MS (36%).RVH was most common with Isolated MS 48%, LVH was most common in patients with Isolated AS 64.29%.on ECHO Mean LA Size(in mm) in Isolated MS is 45.36 , Isolated MR 42.20 , Isolated AR 28.26 ,Isolated AS 27.21. Mean LVIDD(in mm) in Isolated MS is 46.40 , Isolated MR 54.61 , Isolated AR 28.26 ,Isolated AS 27.21. Mean LVIDS(in mm) in Isolated MS is 30.24 , Isolated MR 44.71 , Isolated AR 45.66 ,Isolated AS 41.25. Mean Ejection fraction in Isolated MS is 59.44 , Isolated MR 59.01 , Isolated AR 58.54 ,Isolated AS 60.71. Mean mitral valve area in Isolated MS is 1.16 , mean aortic valve area in Isolated AS 1.29. Mean gradient across mitral area in Isolated MS is 9.56 , Mean gradient across Aortic area in Isolated AS is 32.39. Mean PASP in Isolated MS is 43.60 , Isolated MR 37.57, Isolated AR 28.06 ,Isolated AS 30.25. Mean vena contracted in case of Isolated MR 0.39, in Isolated AR 0.41 , Mean jet width Isolated MR 28.09, Isolated AR 41.91. Most common complication was congestive heart failure 26.8% , followed by atrial fibrillation 22% , followed by infective endocarditis 6.8% , and stroke (hemiparesis) in 2%.

Key Words:

Valvular heart disease, demographics, presentations, complications, severity

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