Case Report

Shadow reports of heart city's valve diseases and clinic

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1. Background

Heart valve disease can be classified into three categories: Regurgitation, Stenosis and Atresia. Depending on which valve is impacted and to what extent, the heart valve disease type may vary. The aortic, mitral, pulmonary and tricuspid valves are the four heart valves that might become problematic due to heart valve illnesses.

1.1. Heart Valve Problems

Heart valve disease can be congenital, meaning it can exist from birth. Adults may also experience it for a variety of reasons and aliments, including infections and other cardiac issues.

1.2. Heart valve problems include

Regurgitation

The heart's valve flaps fail to seal properly allowing blood to flow backward. This is often caused by prolapse, a condition where the valve flaps bulge back.

Stenosis

The valve flaps thicken, stiffen and may even merge collectively. As a result, there is less blood flow through the valve and the valve aperture becomes narrower.

Atresia

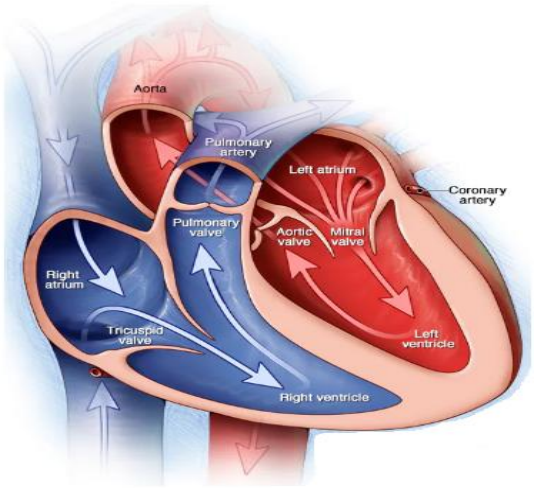
A firm sheet of tissue obstructs the passage of blood between the heart chambers since the valve has not developed.

1.3. Symptoms

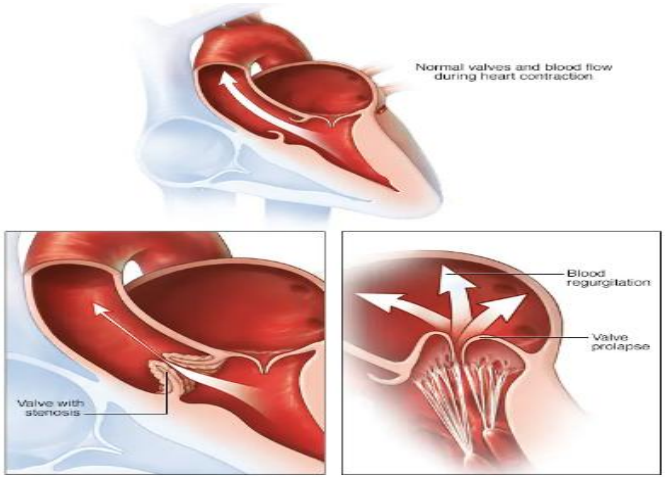
1. Whooshing sound (Heart murmur).
2. Chest pain.
3. Palpitations / Irregular Heartbeat
4. Shortness of breath, particularly when active of lying down
5. Fatigue.
6. Abdominal swelling.
7. Swelling of ankles & feet.

8. Dizziness.
9. Fainting.

Chambers and Valves of the Heart Image



A Normal Heart and Heart Valve Problems Image



1.4. Risk factors

1. Older age.
2. History of certain infections.
3. History of certain forms of heart disease or heart attack.
4. High blood pressure, high cholesterol, diabetes and other heart disease risk factors.

1.5. Diagnosis

Tests might include

1. Echo Cardiograph
2. Electro Cardiogram (ECG)
3. Chest X-Ray

4. Cardiac MRI
5. Exercise tests or stress tests
6. Cardiac Catheterization

1.6. Treatment and heart valve repair

To repair a heart valve

1. Patch holes in a valve
2. Separate valve leaflets that have fused
3. Replace the cords that support the valve
4. Remove excess valve tissue so that the valve can close tightly.

1.7. Mechanical valve replacement image

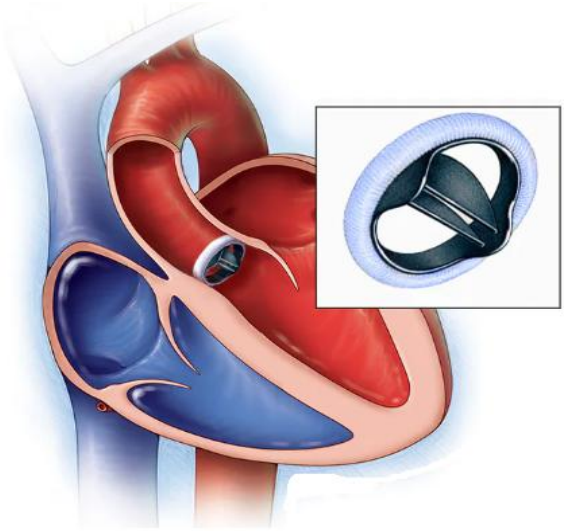
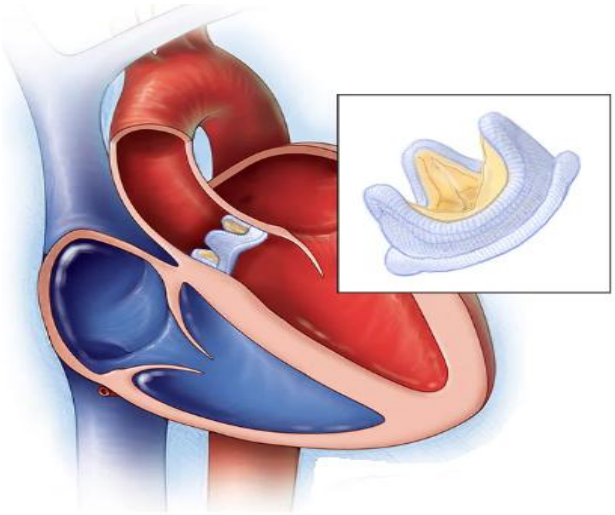


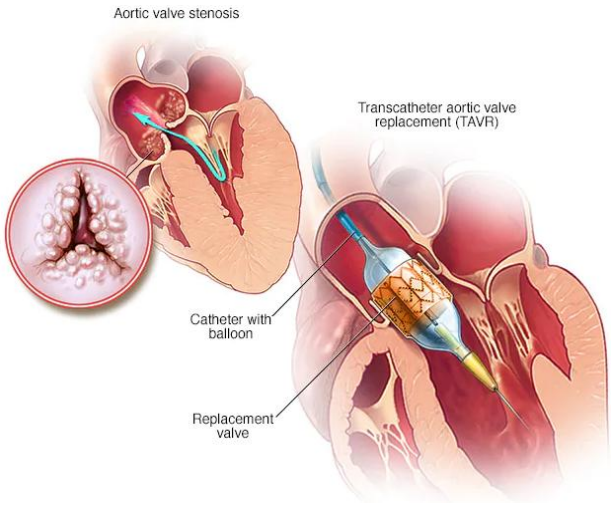
Fig. 1. In a mechanical valve replacement, a mechanical valve replaces the damaged valve

1.8. Biological valve replacement image

In a biological valve replacement, a valve made from cow, pig or human heart tissue replaces the damaged heart valve



Transcatheter Aortic Valve Replacement (TAVR)



It is a minimally invasive procedure to replace a narrowed aortic valve that faces to open properly a condition, eg Aortic Valve stenosis. In this procedure, a surgeons insert a then flexible tube into a leg or chest and guide it to the heart. A replacement valve is inserted through the tube and guided to the heart. A balloon is expanded to press the valve into place. Some Trans catheter Aortic Valve Replacement valves are self-expanding.

1.9. Complications

1. Heart failure
2. Stroke
3. Blood clots
4. Heart rhythm abnormalities
5. Death

1.10. Life style and home remedies

1. Eating a heart healthy diet.
2. Maintaining a healthy weight.
3. Regular physical activity.

4. Managing stress.
5. Avoiding tobacco.

1.11. Heartcity's valve clinic

Since 2021, we have the Valve Clinic functioning on a regular basis at Kauvery Hospital Heartcity.

1.12. Our regular activities

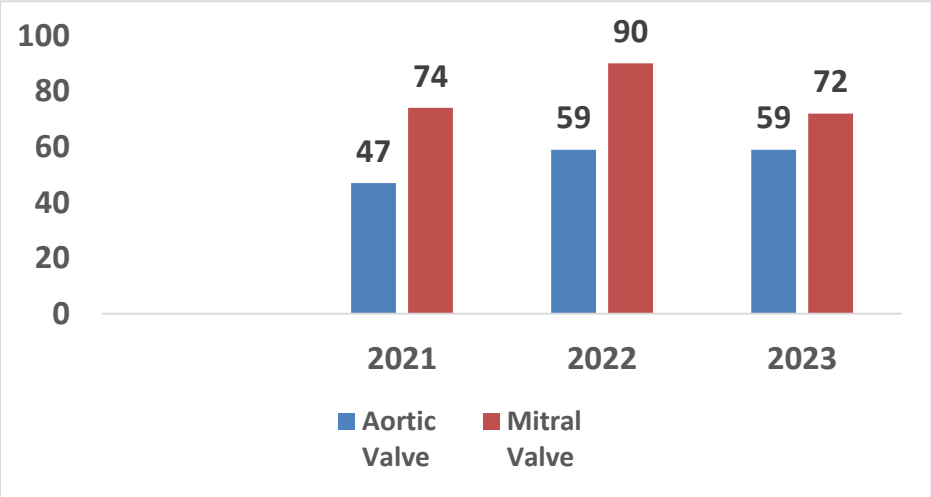
For every valve patient, we are conducting the post discharge call fifteen days following the date of discharge. Meanwhile, we request follow-up information about their medications particularly Tab. Acitrom, blood investigation (INR) report, and routine follow up. We also respond to their queries.

We frequently follow up with the patients over phone after 15 and 30 days.

If a patient is readmitted and it is apparent that the valve is stuck, additional treatment such as thrombolysis over a 24 hours period and /or re – do surgeries will be performed.

Table 1. Valve Surgery patient list at the Kauvery Hospital Heartcity

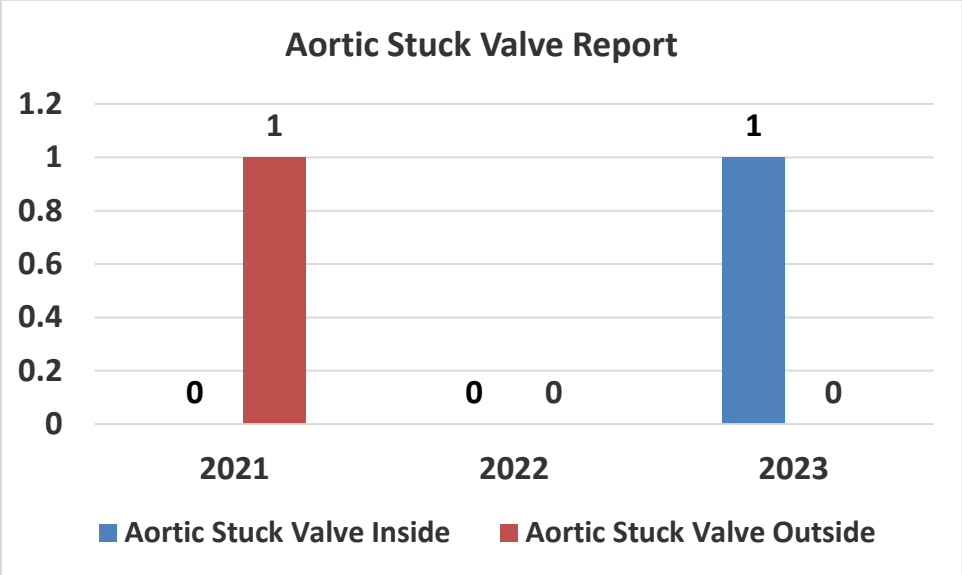
Year	Aortic Valve	Mitral Valve	Valve Surgery
2021	47	74	121
2022	59	90	147
2023	59	72	131
Total	165	236	401



The patients listed below have had valve surgeries in the past. However, they returned due to concern of stuck valve. After a thorough examination. like Echo, we determine that the patient has a blocked valve. After that, we gave the patients Heparine 5000 units Q10 and a thrombolysis was done over a period of 24 hr. Following stabilization we proceed with additional re-do surgeries to safe guard the patient's life.

Table 2. List of stuck valve patients (both performed at Kauvery and other Hospital)

Stuck Valve Patient Report		
Year	**Aortic Stuck Valve**	
	Inside	**Outside**
2021	0	1
2022	0	0
2023	1	0
Total	1	1
Aortic Stuck Valve – 0.6%		
Year	**Mitral Stuck Valve**	
	Inside	**Outside**
2021	1	3
2022	2	3
2023	3	2
Total	6	8
Mitral Stuck Valve – 2.54%		



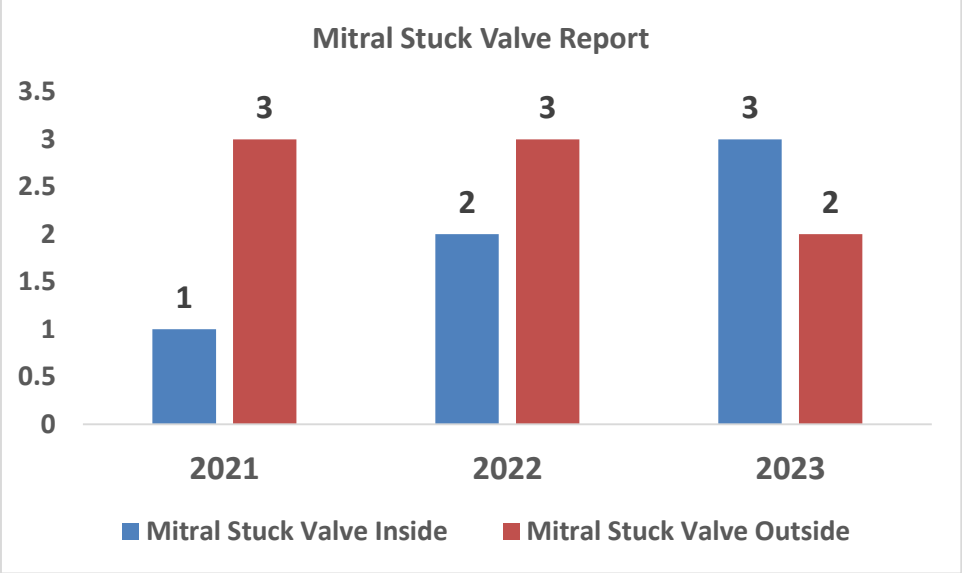
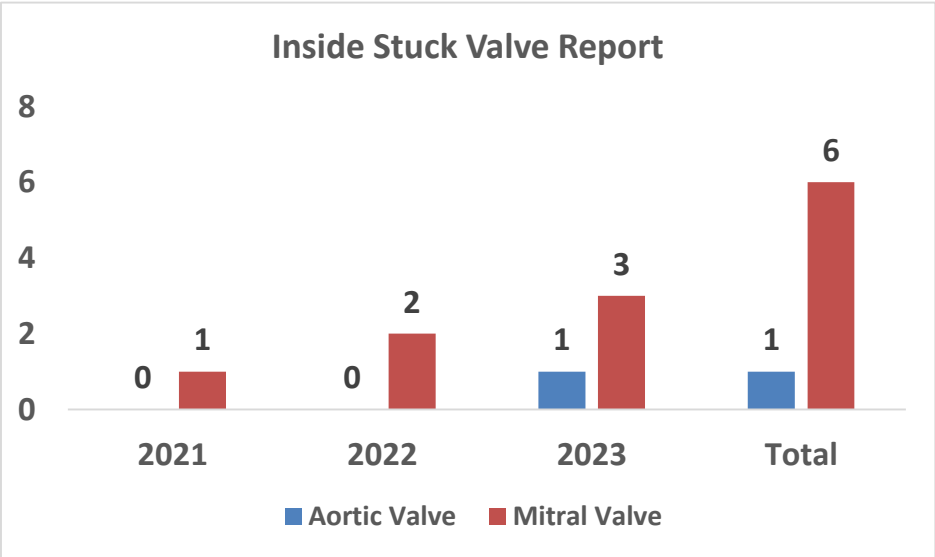


Table 3. List of inside stuck valve report

Inside Stuck Valve Report		
Year	**Aortic Valve**	**Mitral Valve**
2021	0	1
2022	0	2
2023	1	3
Total	1	6
Inside Stuck Valve Percentage = 1.74%		

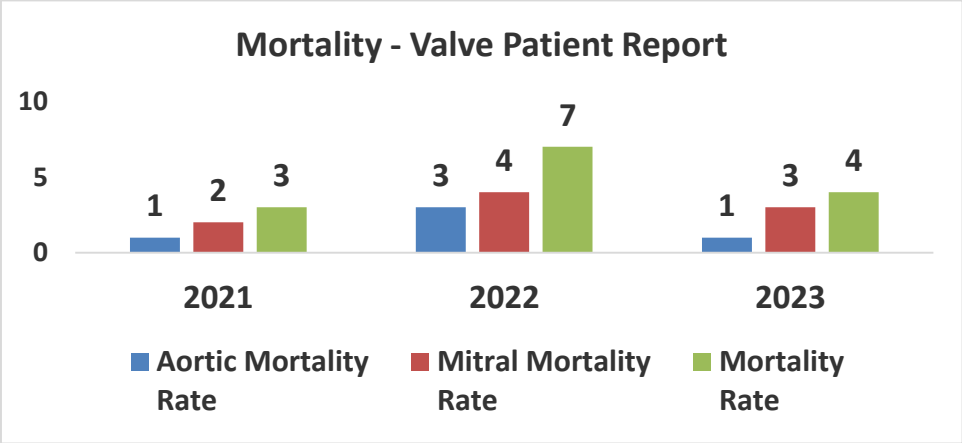


1.13. Mortality rate

We continuously monitor the valve surgery cases and redo cases via post – discharge call on the scheduled days this follow up also aids us in obtaining a death report

Table 4. List of mortality cases

Mortality counts of valve patient report			
Year	**Aortic Mortality Rate**	**Mitral Mortality Rate**	**Mortality Rate**
2021	1	2	3
2022	3	4	7
2023	1	3	4
Total	5	9	14
Mortality cases percentage - 3.49%			



2. Conclusion

Finally, patients with valve problems needed to get explicit health education about diet, exercise and medication particularly the dosage of Tab. Acitrom and the need for INR follow-up. In order to save the patients precious life, nurses must ensure that they receive the necessary health education.