

The Silent Heart: Unveiling Mitral Stenosis in the Postoperative Period

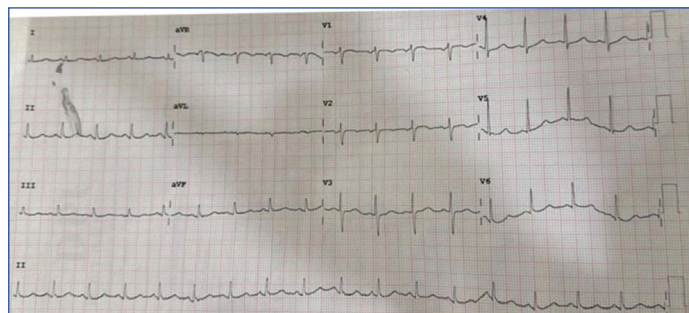
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To the Editor,

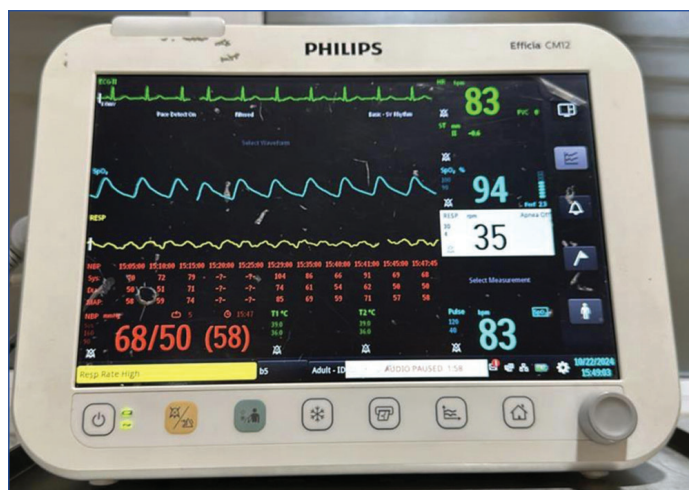
Mitral Stenosis (MS) is a valvular heart condition marked by the narrowing of the mitral valve opening. The normal mitral valve area is 4-6 sq cm [1]. While rheumatic fever is the most common cause, the stenosis generally does not become clinically important until several decades after the initial infection [2]. It usually manifests 20 to 40 years after an episode of rheumatic fever and is more common in females [3]. Common symptoms include orthopnea and paroxysmal nocturnal dyspnea [4]. As the condition progresses, patients may also experience palpitations, chest pain, hemoptysis, and thromboembolism, particularly with an increased left atrial volume.

The case, a 41-year-old female patient with no known co-morbidities was posted for vaginal hysterectomy in view uterovaginal prolapse since last two months which was confirmed clinically and on ultrasonography showing second degree uterovaginal prolapse. Preoperative evaluation showed vitals Non Invasive Blood Pressure (NIBP) of 120/84 mmHg, Pulse Rate (PR) of 96 beats per min with oxygen 164 saturation 98% on room air. Physical examination and laboratory investigations were within normal limits, Chest X-ray [Table/Fig-1] showed increased broncho-vascular markings and the electrocardiogram [Table/Fig-2] showed normal sinus rhythm with a heart rate of 100 per min. There was no history of shortness of breath, orthopnea, or palpitations. A 2D Echocardiogram was not done as patient did not give any positive history and the electrocardiogram was normal. Vaginal hysterectomy under combined spinal and epidural anesthesia was the modality of choice. Preoperatively and intraoperatively, the patient was haemodynamically stable and the surgery was uneventful. The patient was shifted to the post operative recovery unit followed by ward. Postoperative analgesia was given via the epidural catheter with injection Tramadol 50 mg and the catheter was removed on postoperative day 2 as the patient did not complain of pain.

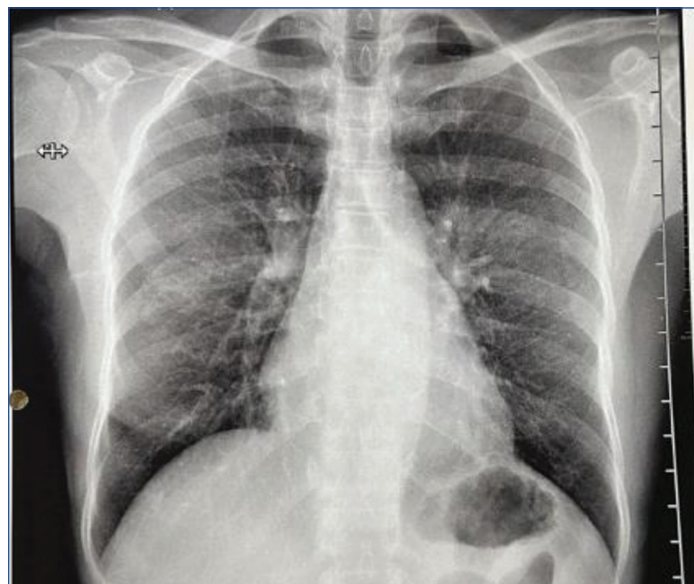


[Table/Fig-2]: Preoperative electrocardiogram.

However, on the evening of postoperative day 2, the patient had an episode of sudden hypotension (80/40 mmHg) and desaturation (92% on room air) and was promptly shifted to the Intensive Care Unit (ICU) for further management with vitals as shown in [Table/Fig-3].



[Table/Fig-3]: Vitals on shifting patient to the Intensive Care Unit (ICU).



[Table/Fig-1]: Preoperative chest X-ray.

In the ICU, 500 mL colloid and 1000 mL crystalloids were administered. However, the blood pressure continued to remain on the lower side 86/48 mmHg and thus noradrenaline infusion was started. Patient continued to be tachypneic and bilateral crept were present so patient was put on non invasive ventilatory support. A 2D echocardiogram screening was done by the intensivist which showed dilated left atrium and mitral valve thickening. Urgent cardiology referral was done in which the 2D echocardiogram showed an ejection fraction of 60%, rheumatic affection of the mitral valve and moderate MS measuring 1.3 sq cm. Patient was continued on inotropic support of Injection Noradrenaline infusion 0.05 mcg/kg/min and titrated according to blood pressure and diuretic Inj. Furosemide 20 mg i.v. once a day were started to control left atrial pressure and enhance oxygenation. Fortunately, the patient responded favourably to medical treatment, and her respiratory condition improved within 48 hours.

This case demonstrates the difficulty of detecting MS in a person who did not have evident clinical symptoms or a history of rheumatic heart disease. Although the patient was asymptomatic prior to

surgery, the strain of the procedure and the recovery period possibly made the symptoms of MS worse, resulting in desaturation and congestion of the lungs.

Even though cardiac imaging may not always be part of standard preoperative screenings, Point-of-Care Ultrasound (POCUS) may be a useful technique as it can aid in early detection of issues and health care professionals should be familiar with the same. A 2D echocardiogram can be later performed by a cardiologist to confirm. In the absence of overt symptoms, undiagnosed valvular heart disease can cause major consequences, particularly in the postoperative period, when the body's compensating mechanisms may be overwhelmed. Particularly in patients having major surgery, routine auscultation, careful evaluation of faint murmurs, and, where necessary, additional cardiovascular screening should be taken into consideration.

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