

**Case Report**

**Role of Transesophageal Echocardiography in Detecting Intraoperative Prosthetic Valve Dysfunction**

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**We encountered a rare complication of prosthetic mitral valve replacement : a “stuck” leaflet detected by transesophageal echocardiography. The patient was immediately managed without significant problem. We emphasize the importance of performing routine intraoperative transesophageal echocardiography in valve replacement as well as in valve repair and its use in detecting major problems.**

**T**he usefulness of intraoperative assessment of cardiac function with transesophageal echocardiography (TEE) has been established, particularly in valve repair [1,2]. We report a case of a stuck prosthetic valve leaflet detected by intraoperative TEE in a 42 y old gentleman with past history of Rheumatic fever and closed mitral commissurotomy 1980. The patient presented to us with mitral valve restenosis and severe Aortic valve disease (regurge / stenosis); Double valve replacement was carried out in a routine fashion without difficulty no leaflet preservation was done. During weaning from cardiopulmonary bypass (CPB) , TEE window showed intermittent sticking of one of the mitral protheses leaflet in the closed position (mitral bileaflet prosthetic valve size 31 mm was used [fig.1]) .Coming off by pass although was smooth the periods of leaflet sticking increased.

CPB was hence resumed, heart arrested and the left atrium reopened. On inspection of the prosthesis, the leaflet on the side of the anterolateral commissure was stuck in the closed position because of residual tissue in the proximity . Normal valve function was restored by a 90-degree rotation of the prosthesis from Antianatomical to anatomical position by rotating the valve while in situ with the rotator. Patient then came off by pass smoothly , made a successful recovery and was discharged from the hospital 10 days later with well functioning prosthetic valve as proved by trans thoracic echocardiographic examination.

**Comment**

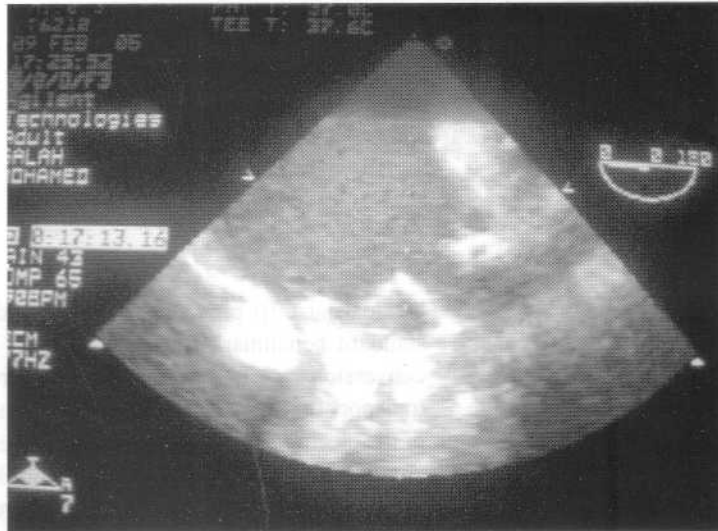
Intraoperative TEE during cardiac surgery permits immediate assessment of left ventricular function and native or prosthetic valve function[3] . Leaflet sticking due to residual tissue like that detected in the present case although

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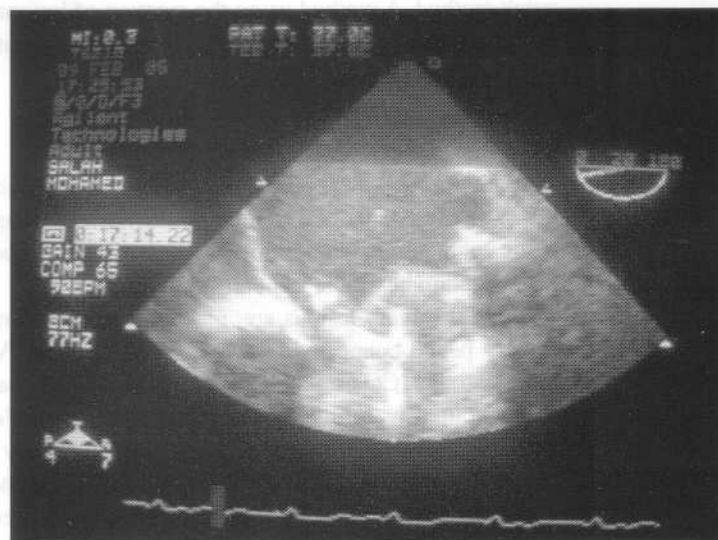
considered rare with bileaflet prostheses is an immediate major complications interfering with proper valve function and may be lethal.

In conclusion, This case illustrates that TEE may play

an invaluable role in the intraoperative assessment of mitral valve replacement as well as repair. We recommend its routine use in cardiac surgery from the initial phase of operation, for immediate management of unexpected events.



**Fig 1.** Intraoperative transesophageal echocardiogram showing the "stuck" leaflet of the prosthesis in the mitral position.



**Fig 2.** Intraoperative transesophageal echocardiogram showing both leaflets of the prosthesis in the closed position.

## References

1. Bryan A.J., Barzilai B., Kouchoukos N.T. Transesophageal echocardiography and adult cardiac operations. *Ann Thorac Surg* 1995;59:773-779.
2. Jagers J., Chetham P.M., Kinnard T.L., Fullerton D.A. Intraoperative prosthetic valve dysfunction: detection by transesophageal echocardiography. *Ann Thorac Surg* 1995;59:755-757.
3. Hiroshi Kumano, MD<sup>a</sup>, Shigefumi Suehiro, MD, PhD<sup>a</sup>, Toshihiko Shibata, MD<sup>a</sup>, Koji Hattori, MD, PhD<sup>b</sup>, Hiroaki Kinoshita, MD, PhD<sup>a</sup>. Stuck valve leaflet detected by intraoperative transesophageal echocardiography *Ann Thorac Surg* 1999;67:1484-1485