The Hemi-Commando Procedure

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No funding was provided for the present study. No acknowledgments.

Ethical statement: The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the provided manuscript are appropriately investigated and resolved.

Word count: 350 of 350

Central Picture: Hemi-Commando procedure with homograft replacement of the AV and MV preservation

Glossary of abbreviations:
AV: Aortic valve
AVR: Aortic valve repair
IVF: Inter-ovalvalcular fibrous body
LA: Left atrium
MV: Mitral valve
Central Message

Inherently, the advantage of the Hemi-Commando procedure is that of significant native mitral valve preservation. We herein describe an auspicious technique for multiple valve infective endocarditis (Video 1). The patient provided written informed consent for publication of study data; IRB approval was not required.

Clinical Summary

A 64-year-old woman with a history of mechanical AVR was referred for surgical evaluation. The patient presented with fever, weight loss, and shortness of breath. Preoperative assessment revealed a positive blood culture with E. coli and complete atrioventricular block. A left heart catheterization evidenced normal-functioning coronary arteries and a dehiscent mobile prosthetic AV. Preoperative TEE showed multiple mobile echo-densities attached to the AV prosthesis, a large echo-lucent space around the aortic root, thickening of the IVF, and a moderate +2 MVR.

The patient underwent an elective Hemi-Commando procedure due to bi-valvular infective endocarditis and involvement of the IVF. Upon median sternotomy, large vegetations were noticed around the aortic prosthesis, IVF and MV, and large abscesses around the aortic root. The prosthetic valve was removed and was followed by a thorough excision of the infected tissues. An aortic homograft including the aortomitral membrane, the ascending aorta, and the anterior leaflet of the MV, was transplanted intact as a unit. Subsequently, an annuloplasty ring was placed around the MV. Prior to closure of the median sternotomy, intraoperative TEE showed normal AV.
homograft function, and trivial MVR, with preserved hemodynamics. The procedure was well tolerated with no immediate complications in the postoperative period (*Fig1*).

**Discussion**

In the presence of extensive multi-valvular infection, the Hemi-Commando procedure has shown commendable outcomes on account of its native MV preservation principle. This procedure is reserved for patients with root pathology requiring repair and involvement of the aorto-mitral continuity and IVF body. While the prerequisites are an intact posterior MV leaflet and free edge on the anterior leaflet, its performance on prioritizing MV preservation is associated with improved early- and mid-term outcomes. The exposure of the LA conveys optimal exposure of the MV, facilitating infected tissue resection. The integrity of the left heart is restored with an aortomitral homograft. Furthermore, a MV ring or band is necessary to stabilize the inter-trigonal area connected to the new IVF, thus avoiding hypermobility of the anterior leaflet into the LV outflow tract. Ultimately, the innate preserving nature of said procedure spares valvular dynamics in spite of its high complexity.

**References**


**Figure**

Hemi-Commando procedure with homograft replacement of the AV and MV preservation.