HCM” and, as such, it is inherently different from alcohol septal ablation.

Carvalho and colleagues from Mayo Clinic, which has an unparalleled track record of providing deep insights on HCM, contributed again by adding another layer of knowledge in this entity. Their experience with these patients is enviable, and in sharing their work in classifying the relevant surgical anatomy and refining surgical technique, they make surgical expertise accessible to the whole field.

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See Article page 83.

Commentary: Sharing a wealth of information: HOCM surgery

Patrick M. McCarthy, MD

Some may believe that the only road to “truth” is through randomized clinical trials. However, this report of the incredible experience with surgery for hypertrophic obstructive cardiomyopathy (HOCM) at the Mayo Clinic once again highlights the power of extensive clinical experience in the hands, and minds, of expert clinical surgeons who have had the discipline to collect, analyze, and report their experience so that other surgeons can learn.¹ Our specialty has learned much from the fruits of this approach, such as Dr Fred Loop’s report on the superiority of the left internal thoracic artery over saphenous vein grafts for left anterior descending artery bypass and Dr Alain Carpentier’s report of

Patrick M. McCarthy, MD

CENTRAL MESSAGE

Anomalous papillary muscles that insert into the anterior mitral leaflet in patients with hypertrophic myopathy might not be detected before surgery and can benefit from this approach to successful surgery.

the “French correction” for mitral valve repair.^{2,3} The Mayo Clinic reports with HOCM surgery are contributions along the same historic path for this rare disease that even high-volume surgeons might not see often.^{1,4,5}

The Mayo authors identified the presence of accessory papillary muscles in 228 of 3186 patients (7.2%) undergoing myectomy for HOCM, 73 of whom (2.3%) had insertion into the anterior mitral leaflet and were classified into 3 types occurring in almost equal frequency. The article is

From the Cardiac Surgery Division, Department of Surgery, Northwestern University Feinberg School of Medicine, Chicago, Ill.

Disclosures: The author reports receiving speaking fees and royalties from Edwards Lifesciences and speaking fees from Medtronic and AtriCure, and serving as the surgical primary investigator on the REPAIR-MR Trial for Abbott Laboratories.

The *Journal* policy requires editors and reviewers to disclose conflicts of interest and to decline handling or reviewing manuscripts for which they may have a conflict of interest. The editors and reviewers of this article have no conflicts of interest.

Received for publication April 27, 2020; revisions received April 27, 2020; accepted for publication April 28, 2020; available ahead of print May 11, 2020.

Address for reprints: Patrick M. McCarthy, MD, Cardiac Surgery Division, Department of Surgery, Northwestern University Feinberg School of Medicine, 201 East Huron St, Suite 11-140, Chicago, IL 60611-2908 (E-mail: pmccart@nmh.org).

J Thorac Cardiovasc Surg 2022;163:91-2

0022-5223/\$36.00

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<https://doi.org/10.1016/j.jtcvs.2020.04.134>

well illustrated with echocardiographic images before and after resection, but an important message is that these types might be identified on preoperative studies or intraoperative echocardiography, and thus surgeons need to be alert and assess for their presence and then follow the suggested recommendations for resection. Type I, with insertion only into the body of the anterior leaflet, should be safely divided/resected to open the left ventricular outflow tract and relieve obstruction. For type II, the papillary muscle can be mobilized and the insertion into the body of the anterior leaflet should be resected but not to the anterior leaflet free edge, which would create an unsupported free edge and organic mitral regurgitation (not functional from systolic anterior motion). For type III, with only insertion into the free edge, resection is not appropriate.

Although I may be considered a high-volume HOCM surgeon because I do more than 25 myectomy operations annually, I learn from the subtleties that surgeons like Dr Hartzell

Schaff describe after performing thousands of these operations. Medicine and surgery advance not only from randomized trials and guidelines, but also from the experience and academic contributions of individual surgeons and programs.

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See Article page 83.

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Commentary: Bringing conformity to anomaly

Lawrence M. Wei, MD

Hypertrophic cardiomyopathy (HCM) is a genetic disease with varied phenotypes, many of which cause left ventricular outflow tract (LVOT) obstruction. Extended septal myectomy is the mainstay of surgical therapy for HCM with obstruction, effectively relieving symptoms of heart failure in most patients by eliminating LVOT obstruction and mitral valve regurgitation.¹ Variations in pathoanatomy such as anomalous papillary muscles inserting directly into the anterior mitral leaflet may require modification of the operation. Although these anomalous muscles have been

Lawrence M. Wei, MD

CENTRAL MESSAGE

A classification system for anomalous papillary muscles inserting directly into the anterior mitral leaflet will aid surgeons performing operations for obstructive HCM.

described,² they have not been classified into a system to guide surgical management.

In this issue of the *Journal*, Carvalho and colleagues³ describe a series of patients with anomalous papillary muscles who underwent surgery for obstructive HCM. These 73 patients comprised 2.3% of the patients who underwent

From the Department of Cardiovascular and Thoracic Surgery, West Virginia University, Morgantown, WV.

Disclosures: The authors reported no conflicts of interest.

The *Journal* policy requires editors and reviewers to disclose conflicts of interest and to decline handling or reviewing manuscripts for which they may have a conflict of interest. The editors and reviewers of this article have no conflicts of interest.

Received for publication May 10, 2020; revisions received May 10, 2020; accepted for publication May 11, 2020; available ahead of print May 24, 2020.

Address for reprints: Lawrence M. Wei, MD, Department of Cardiovascular and Thoracic Surgery, West Virginia University Heart and Vascular Institute, PO Box 8003, One Medical Center Drive, Morgantown, WV 26506 (E-mail: lawrence.wei@wvumedicine.org).

J Thorac Cardiovasc Surg 2022;163:92-3

0022-5223/\$36.00

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<https://doi.org/10.1016/j.jtcvs.2020.05.027>