Case Reports

Myxoma of the Left Ventricle

This report concerns a 69-year-old woman who presented with an asymptomatic myxoma in the left ventricle. The tumor was successfully excised. We provide a very brief review of 72 other published cases of surgically treated left ventricular myxoma. ***(Tex Heart Inst J 2014;41(4):395-400)***

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Key words: *Adult; cardiopulmonary bypass; echocardiography, transesophageal; echocardiography, transthoracic; female; heart neoplasms/surgery; heart ventricles/pathology; myxoma/surgery*

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Most cardiac myxomas are located in the left atrium and are attached to the atrial septum. Here we present a case in which a myxoma in the left ventricle was successfully excised.

Case Report

A 69-year-old woman with known chronic liver disease was admitted for acute liver dysfunction in association with nonspecific autoimmune disease, rheumatoid arthritis, hypothyroidism, and arterial hypertension. She reported no cardiac diseases or chest pain. During her hospitalization, transthoracic and transesophageal echocardiograms showed a single pediculated round mass (13 × 23 mm) attached to the left ventricular endocardium (Figs. 1 and 2). Chest radiographs, the electrocardiogram, and standard blood tests all showed normal findings. The patient's body mass index was 26.24 kg/m^2. A liver function test yielded normal results except for a moderate increase of serum glutamic-oxaloacetic transaminase (93 U/L) and serum glutamic-pyruvic transaminase (92 U/L), as determined by enzymatic and colorimetric spectrophotometry.

The patient underwent excision of the intracardiac mass on 5 May 2010, under general anesthesia. A median sternotomy was performed. The ascending aorta and both venae cavae were cannulated, and standard cardiopulmonary bypass (CPB) was performed. The heart was stopped by cross-clamping the ascending aorta. Myocardial protection was achieved by means of topical cooling with ice and intermittent anterograde and retrograde administration of cold-blood cardioplegic solution. The venae cavae were snared with tourniquets, the tumor was excised through a limited left ventriculotomy, and the tumor's pedicle was shaved from the endocardium. The incision was closed with a double layer of 3-0 polypropylene running suture (Fig. 3). The patient was weaned from CPB easily, without inotropic support. Under histopathologic examination, the excised mass was consistent with myxoma. A follow-up echocardiogram 3 months postoperatively disclosed no abnormalities. The patient was lost to follow-up.

Discussion

The first reported case of surgical removal of a left ventricular myxoma was that published by Kay and colleagues in 1959.[1] Since then, at least 71 other surgical cases (excluding myxomas of the mitral or aortic valve) have been reported, most of them as single cases (Table I).[2-72]

Most medical centers have little or no experience in the management of a myxoma in the left ventricle. The surgical approach to a tumor in this location can be carried out 1) through the left atrium and mitral valve, 2) through the ascending aorta, with video assistance, 3) through the right atrium and atrial septum, or 4) through a small longitudinal incision in the left ventricle. We decided on this last approach because it affords good visibility and the possibility of a complete resection. Most reported excisions of left ventricular myxoma have been performed with use of full median sternotomy and classical CPB. Recently, endoscopy and minimally invasive techniques have also been applied.[33,63,64,70,72]

TABLE I. Published Cases of Left Ventricular Myxoma* (Surgically Treated)

Reference	Pt. Age (yr)	Sex	Attachment	Size** (mm)	Total Excision	Survived Operation
Kay JH, et al.[1] (1959)	32	F	VS	NA	Yes	Yes
Thomas GI, et al.[2] (1963)	14	F	VS	NA	No	No
de Paiva EC, et al.[3] (1967)	16	M	VS	30	No	No
Wilcox BR and Carter JM[4] (1971)	50	F	LV	40 × 20	Yes	Yes
Collins HA and Collins IS[5] (1972)	16	F	VS	NA	Yes	Yes
Levisman JA, et al.[6] (1975)	45	F	VS	30	Yes	Yes
Meller J, et al.[7] (1977)	33	M	VS	100 × 50	Yes	Yes
Fukui H, et al.[8] (1982)	36	M	LV	15	Yes	NA
Palazzuoli V, et al.[9] (1986)	19	M	LV	60 × 50 × 30	Yes	Yes
Rosenzweig A, et al.[10] (1989)	43	F	VS	30	Yes	Yes
Otto AC and Hough J[11] (1989)	27	F	VS	25 × 35	Yes	Yes
Panday S, et al.[12] (1990)	34	F	VS	60 × 60	Yes	Yes
Ueno Y, et al.[13] (1990)	32	M	LV	50 × 30	Yes	Yes
Wrisley D, et al.[14] (1991)	25	F	LV	NA	Yes	Yes
Alfieri O, et al.[15] (1991)	NA	NA	LV	NA	Yes	Yes
Aota M, et al.[16] (1992)	17	M	LV	11 × 9 × 5	Yes	Yes
Soma Y, et al.[17] (1992)	23	M	LV	NA	Yes	Yes
Gotoh Y, et al.[18] (1993)	NA	NA	NA	NA	Yes	Yes
Kowalik B and Waligorski S[19] (1994)	69	F	VS	NA	Yes	Yes
Silvestre G, et al.[20] (1994)	NA	NA	VS	NA	Yes	Yes
Bauer MF, et al.[21] (1994)	38	F	LV	30 × 30 × 10	Yes	Yes
Saldanha R, et al.[22] (1996)	26	M	LV	NA	Yes	Yes
Fiorilli R, et al.[23] (1996)	NA	F	LV	NA	Yes	NA
Hariya A, et al.[24] (1996)	71	M	LV	24 × 12	Yes	Yes
Li JY, et al.[25] (1996)	20	F	VS	60 × 50	Yes	Yes
Ishikawa K, et al.[26] (1996)	74	F	VS	11 × 12 × 12	Yes	Yes
Vaughan CJ, et al.[27] (1997)	52	M	LV	25 × 12	Yes	Yes
Thongcharoen P, et al.[28] (1997)	17	M	LV	NA	Yes	Yes
Kapoor A, et al.[29] (1998)	7	F	VS	28 × 30	Yes	Yes
Ramirez Moreno A, et al.[30] (1998)	33	M	LV	NA	Yes	Yes
Basso C, et al.[31] (1998)	20	M	LV	15 × 15 × 15	Yes	NA
Delgado LJ, et al.[32] (1998)	20	M	LV	20 × 30	Yes	Yes
Greco E, et al.[33] (1999)	23	M	LV	20 × 20	Yes	Yes
Bortolotti U, et al.[34] (1999)	29	F	LV	NA	Yes	NA
Gabe ED, et al.[35] (1999)	23	M	VS	NA	Yes	Yes
Hattori Y, et al.[36] (1999)	13	F	LV	NA	Yes	Yes
Kawano H, et al.[37] (2000)	NA	NA	LV	NA	NA	Yes
Cemri M, et al.[38] (2001)	25	M	LV	NA	NA	NA

Table I continues on next page.

TABLE I continued. Published Cases of Left Ventricular Myxoma* (Surgically Treated)

Reference	Pt. Age (yr)	Sex	Attachment	Size** (mm)	Total Excision	Survived Operation
Cis A, et al.[39] (2001)	5	F	VS	NA	Yes	Yes
Rendon F, et al.[40] (2002)	27	F	LV	56 × 36	Yes	Yes
Marelli RD, et al.[41] (2002)	NA	NA	LV	NA	NA	NA
Heima D, et al.[42] (2005)	4	F	LV	NA	Yes	Yes
Bicer A, et al.[43] (2005)	31	F	LV	29 × 19	Yes	Yes
Darwazah AK, et al.[44] (2006)	NA	NA	VS	37 × 20	Yes	Yes
Natale E, et al.[45] (2007)	60	F	LV	75 × 45	Yes	Yes
Sharma G, et al.[46] (2007)	11	M	LV	14 × 12	Yes	Yes
Yalta K, et al.[47] (2007)	49	F	VS	NA	Yes	Yes
Arruda MV, et al.[48] (2008)	22	M	LV	30 × 27	Yes	Yes
Iliescu VA, et al.[49] (2008)	23	F	LV	NA	Yes	Yes
Kvitting JP, et al.[50] (2008)	55	F	LV	23 × 27	Yes	Yes
Barbetakis N, et al.[51] (2008)	62	M	LV	69.6 × 40.8	Yes	Yes
Becker RP, et al.[52] (2008)	NA	NA	LV	NA	Yes	Yes
Shukla V, et al.[53] (2009)	29	F	LV	NA	Yes	Yes
Aguilar JA, et al.[54] (2009)	28	F	LV	NA	Yes	Yes
Robert J, et al.[55] (2009)	32	M	LV	17 × 31	Yes	Yes
Vermeulen T, et al.[56] (2009)	18	F	LV	25 × 29	Yes	Yes
Chen J, et al.[57] (2009)	32	F	VS	40 × 30 × 30	Yes	Yes
Korkmaz AA, et al.[58] (2010)	20	M	LV	20 × 15	Yes	Yes
Cetin G, et al.[59] (2010)	NA	NA	LV	NA	Yes	NA
Wang B, et al.[60] (2010)	23	F	VS	20 × 15 × 15	Yes	Yes
Al Ali A, et al.[61] (2010)	12	F	VS	53 × 34 × 29	Yes	Yes
Kumar P and Garg A[62] (2011)	32	M	VS	18 × 30	Yes	Yes
Hassan M and Smith JM[63] (2012)	16	M	LV	15 × 16	Yes	Yes
Kammerer I, et al.[64] (2012)	72	M	LV	NA	Yes	Yes
Kefeng Z, et al.[65] (2012)	24	M	LV	NA	Yes	Yes
Ipek EG, et al.[66] (2012)	19	M	VS	30 × 40	Yes	Yes
Sudhakumari V, et al.[67] (2012)	45	M	LV	37 × 23	Yes	Yes
Toufan M, et al.[68] (2012)	24	M	LV	NA	Yes	Yes
Yamada H, et al.[69] (2012)	61	F	LV	NA	Yes	Yes
Elmistekawy EM, et al.[70] (2012)	10	M	VS	NA	Yes	Yes
Nijmeh G, et al.[71] (2013)	31	F	LV	20	Yes	Yes
Schröder C, et al.[72] (2013)	57	F	LV	NA	Yes	Yes
Current case	69	F	LV	13 × 23	Yes	Yes

F = female; LV = left ventricle; M = male; NA = not available; Pt. = patient; VS = ventricular septum

*Cases of myxoma arising from the mitral valve (ring, leaflets, papillary muscles, or subvalvular apparatus) and aortic valve are excluded.

**The size in mm was registered at surgery in 16 patients,[3,4,6,7,9-13,16,21,24,26,31,57,60] by echocardiogram in 21,[8,25,27,29,32,33,43-46,48,50,55,56,58,61-63,66,67,71] by computed tomographic scan in 1,[51] and by cardiac magnetic resonance imaging in 1.[40]

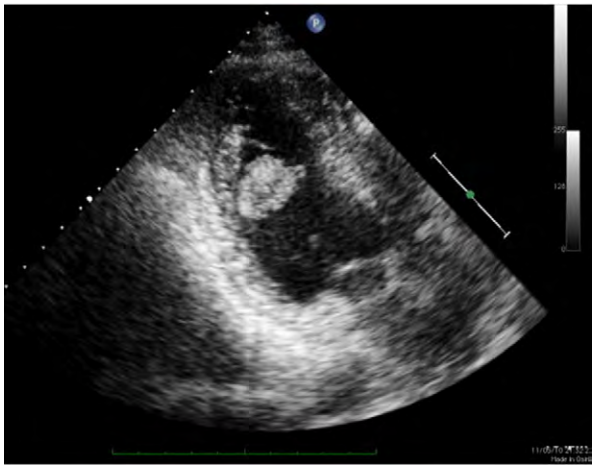

Fig. 1 *Transthoracic echocardiogram (3-chamber view) reveals the tumor in the left ventricular cavity.*

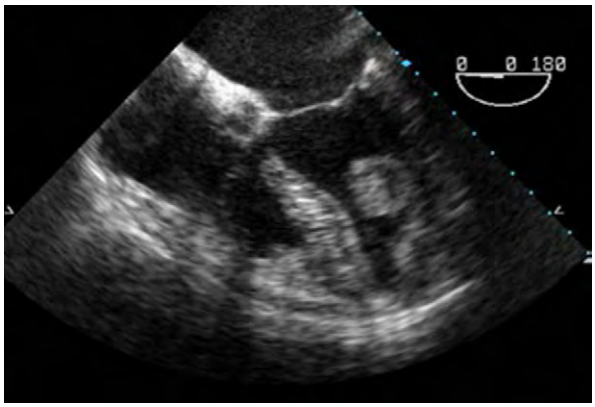

Fig. 2 *Transesophageal echocardiogram (4-chamber view) shows the intracardiac mass in the left ventricle.*

Fig. 3 *Photograph shows the resected myxoma.*

Acknowledgments

The authors would like to acknowledge all members of our hospital's departments of cardiovascular surgery and cardiology, together with our intensive care unit, for their care of this patient. We also extend a special thank-you to Dr. Jesus Villar, head of the research unit of the hospital, for his technical assistance and review of the manuscript.

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