cases with this procedure, we wonder whether the results have always been good.

Although we have some points to be clarified, we again congratulate Fukuda and associates[1] on their successful results in this complicated case. In our opinion, transapical aortic cannulation should be the last alternative. No one can predict the results of this procedure.

Yasushi Terada, MD
Katsutoshi Nakamura, MD
Department of Cardiovascular Surgery
Yamato Tokushukai Hospital
Kanagawa, Japan

Reference

1. Fukuda I, Aikawa S, Imazuru T, Osaka M. Transapical aortic cannulation for acute aortic dissection with diffuse atherosclerosis. *J Thorac Cardiovasc Surg.* 2002;123:369-70.
doi:10.1067/mtc.2003.255

Reply to the Editor:

We thank Terada and Nakamura for their comments regarding our work.[1] Transapical aortic cannulation was originally described in the 1970s. However, it has been unpopular because of similar comments by the critics.

Originally this method was used in surgery for congenital heart disease or mitral valvular disease.[2] The main reason for the use of transapical aortic cannulation today is for surgery on diseased aorta without intracardiac abnormality. Thus the indication for this method today is different from that during the 1970s.

We have used transapical aortic cannulation in 4 patients (2 in median sternotomy and 2 in left thoracotomy) without any serious adverse effects. Although the volume of our experience is small, we would like to comment on it. With respect to hypotension during elevation of the apex, its duration was quite short, and the blood pressure recovered as soon as the apex was lowered into normal position. Although elevation of the apex of a beating heart can be an uncomfortable procedure for a cardiac surgeon, we were accustomed to this procedure from our recent experience with off-pump coronary artery bypass grafting.

In addition, hypotension during insertion of the cannula was advantageous to reduce the amount of bleeding during puncture of the apex. To prevent devastating hemorrhage during cannulation and to avoid dislocation of the cannula, purse-string suture with Dacron polyester felt was placed at the apex and preliminary venous cannulation was performed. In 2 patients the femoral artery was cannulated as an accessory perfusion site to the lower extremities. We evaluated aortic regurgitation during aortic perfusion, and it was mild on duplex scanning. Intraoperative findings revealed a competent aortic valve with aortic cannula positioning at the center of the aortic orifice. Although clamping of the ascending aorta was impossible, all 4 patients underwent replacement of the aortic arch under deep hypothermic circulatory arrest either with or without selective cerebral perfusion, depending on the needs of each case.

Administration of cardioplegic solution was thus performed after the aorta was transected under deep hypothermic arrest. Therefore inability to administer cardioplegic solution was not an essential problem. Repair of the apex was completed during cardiac arrest, and systemic perfusion was resumed through cannula in the graft.

We concur with Terada and Nakamura regarding the usefulness of the axillary artery as the first alternative access to the femoral artery.[3] We used axillary artery cannulation in 23 of 935 patients who underwent cardiac surgery with cardiopulmonary bypass. In the 4 patients who underwent transapical cannulation, both the femoral artery and axillary artery were inaccessible or inadequate as a systemic perfusion site because of compressed true lumen of the descending aorta, severe obesity, or subclavian artery disease. If a patient has these conditions, transapical aortic cannulation is indicated. We believe that transapical aortic cannulation is safe and useful for such selected patients.

Ikuo Fukuda, MD[a]
Kozo Fukui, MD[a]
Ko Watanabe, MD[b]
Motoo Osaka, MD[b]
Department of Surgery 1
Hirosaki University School of Medicine
5 Zaifu-cho
Hirosaki, Aomori, 036-8562, Japan[a]
Department of Cardiovascular Surgery
Tsukuba Medical Center
Tsukuba, Japan[b]

References

1. Fukuda I, Aikawa S, Imazuru T, Osaka M. Transapical aortic cannulation for acute aortic dissection with diffuse atherosclerosis. *J Thorac Cardiovasc Surg.* 2002;123:369-70.
2. Tanaka T, Kawamura T, Ohara K, Matsumoto M, Maeta H, Hiratsuka H. Transapical aortic perfusion with a double-barreled cannula. *Ann Thorac Surg.* 1978;25:209-14.
3. Neri E, Massimo M, Capanini G, Carone E, Tucci E, Diciolla F, et al. Axillary artery cannulation in type A aortic dissection operations. *J Thorac Cardiovasc Surg.* 1999; 118:324-9.
doi:10.1067/mtc.2003.256

Thymectomy in ocular myasthenia gravis

To the Editor:

We read with interest the recent article by Roberts and associates[1] on thymectomy in the treatment of ocular myasthenia gravis (OMG). It represents an important step in the debate concerning this issue and in the consideration of OMG as part of a broad-spectrum disease and not as a distinct disease.

What we know from the literature is that the disease will progress in about 50% of patients with initial OMG.[2] On the other hand, thymectomy is considered a mainstay therapy for generalized myasthenia gravis (GMG), and the best outcome is expected in patients operated on early after the onset of the disease.

What we should simply do is predict when a pure OMG is an initial GMG and offer to such patients the best treatment, which might also include an extended thymectomy.

Apart from the presence of a thymoma, which makes the surgical procedure mandatory, no clear indication for thymectomy in OMG appears in the literature.

Only a few studies have focused on thymectomy in OMG,[1,3-5] and when patients with OMG are merged with those with GMG, the assessment of the efficacy of thymectomy is difficult for the combined action of various medical therapies and for the lack of standardized methods for assessing patient status before and after surgical intervention and assessing the correct criteria of success.

A contribution to the discussion about this topic might be derived from our experience.

From 1993 to now, 29 patients with OMG underwent transternal extended thymectomy at our institution. In the same period, the same neurologist (R.R.) treated 343 patients with OMG, and consequently, the eligibility rate for surgical treatment of OMG was 8.5%.

Specific indications for the operation were as follows:

1. Presence of thymoma (n = 20) or suspected thymic mass (n = 3) on the thoracic computed tomographic or nuclear magnetic resonance scan
2. High titers of acetylcholine receptor antibody (n = 3)
3. Resistance to pyridostigmine therapy or relapse after steroid or immunosuppressive therapy (n = 1)
4. Dependance on a high dosage of corticosteroids (n = 2).

Our mortality rate was nil, and no major morbidity was experienced. That is common to most of the surgical teams skilled in the treatment of myasthenic patients and makes the thymectomy a generally considered safe procedure.

The neurologic results of thymectomy in our overall series of 45 patients with OMG have been recently reported.[6] The remission rate was significantly higher in patients with stage I myasthenia than in those in the other Osserman categories.

In the more recent series of 29 patients, the neurologic postoperative results were 22 complete remissions, 3 remissions with medication, 3 cases of improved status, and 1 case of unchanged status.

Our experience, general considerations, and results suggest that extended thymectomy might play a role in highly selected patients with OMG, and there is need for further studies to assess its efficacy.

We again congratulate the authors, who have focused and debated on what is considered a highly controversial indication for thymectomy.

Marco Lucchi, MD[a]
Alfredo Mussi, MD[a]
Roberta Ricciardi, MD[b]
Carlo Alberto Angeletti, MD[a]
Division of Thoracic Surgery
Cardiac and Thoracic Department[a]
Division of Neurology
Department of Neurosciences[b]
University of Pisa
Pisa, Italy

References

1. Roberts PF, Venuta F, Rendina E, De Giacomo T, Coloni GF, Follette DM, et al. Thymectomy in the treatment of ocular myasthenia gravis. *J Thorac Cardiovasc Surg.* 2001;122:562-8.
2. Evoli A, Batocchi AP, Minisci C, Di Schino C, Tonali P. Therapeutic options in ocular myasthenia gravis. *Neuromuscul Disord.* 2001;11:208-16.
3. Schumm F, Wieltholter H, Fateh-Moghadam A, Dichgans J. Thymectomy in myasthenia with pure ocular symptoms. *J Neurol Neurosurg Psychiatry.* 1985;48:332-7.
4. Nakamura H, Taniguchi Y, Suzuki Y, Tanaka Y, Ishiguro K, Fukud M, et al. Delayed remission after thymectomy for myasthenia gravis of the purely ocular type. *J Thorac Cardiovasc Surg.* 1996;112:371-5.
5. Sommer N, Sigg B, Melms A, Weller M, Schepelmann K, Herzau V, et al. Ocular myasthenia gravis: response to long-term immunosuppressive treatment. *J Neurol Neurosurg Psychiatry.* 1997;62:156-62.
6. Mussi A, Lucchi M, Murri L, Ricciardi R, Luchini L, Angeletti CA. Extended thymectomy in myasthenia gravis: a team-work of neurologist, thoracic surgeon and anaesthesist may improve the outcome. *Eur J Cardiothorac Surg.* 2001;19:570-5.
doi:10.1067/mtc.2003.253

Reply to the Editor:

We appreciate the comments by Lucchi and colleagues at the University of Pisa. Their results are consistent with ours, but they differ in one important respect. In their group of 29 patients, 23 were operated on because of thymomas or suspected thymic masses, and 3 had thymectomies because nonoperative therapy had been ineffective or was not tolerated. This suggests that only 3 of their 29 patients had thymectomies specifically for the treatment of ocular myasthenia gravis (OMG), whereas OMG was the indication for operation in all of our patients. Our findings, supported by those of Lucchi and associates and the University of Pennsylvania group,[1] strongly suggest that thymectomy achieves greater remission rates for OMG than for more advanced forms of myasthenia gravis. Thus we recommend operation as the primary treatment for OMG when the diagnosis is firm.

Peter F. Roberts, MD[a]
John R. Benfield, MD[a]
Federico Venuta, MD[b]
Division of Cardiothoracic Surgery
UC Davis Medical Center
Sacramento, CA 95817[a]
University of Rome, "La Sapienza"
Cattedra di Chirurgia Toracica\Policlincio Umberto I
Rome, 00161, Italy[b]

Reference

1. Sharger JB, Deeb ME, Mick R, et al. Transcervical thymectomy achieves results comparable to median sternotomy in the treatment of myasthenia gravis. *Ann Thorac Surg.* 2002;74:320-6
doi:10.1067/mtc.2003.254

Percutaneous valve insertion: A new approach?

To the Editor:

The recently published article on percutaneous aortic valve replacement Lutter and associates[1] strengthens our belief that nonsurgical valve replacement will soon become a reality in the replacement of semilunar cardiac valves.

Andersen, Knudsen, and Hasenkam[2] reported a nonsurgical heart valve replacement as early as 1992, and this was followed by similar attempts by other groups. Many technical problems have been encountered. The size of the vascular access required was too big, the function of the valve after compression and re-expansion could be compromised, and finally the newly implanted valve could obstruct the coronary orifices in aortic implantations. We reported our first experimental studies in 2000 for percutaneous pulmonary valve replacement and, after ethical approval, the first human heart valve implantation was performed by us in September 2000.[3,4] In parallel, we reported our first successful aortic implantations in an experimental setup without creating coronary obstruction due to a newly designed stent with a two-step deployment strategy.[5] In April 2002, the French newspapers reported the first successful percutaneous implantation of an aortic valve as an emergency procedure in a 47-year-old man in cardiogenic shock. This came as a result of an ongoing research project by Alain Cribier in Rouen, France.

The article by Lutter and associates reports their experience with aortic implantations. As in our early aortic work, they have experimented with valve implantations in the supracoronary position. In this position, the valve implant does not obstruct the coronary orifices and the pressure difference over the closed valve is significantly smaller. This decreases the force to dislodge the valve after implantation and leads to reduced stress on the functioning valve leaflets. In our experience, implantation in this position was technically easy. However, in contrast to Lutter and coworkers, we had significant problems with cor-