

Correspondence

Popov VV

National Institute of Cardiovascular Surgery named after N.M. Amosov AMS of Ukraine, Kyiv, Ukraine

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Open Mitral Commissurotomy for Correction of Isolated Mitral Device

Popov VV, Pukas KV, Pankevych OO, Lazoryshynets VV

National Institute of Cardiovascular Surgery named after N.M. Amosov AMS of Ukraine, Kyiv, Ukraine

Abstract

Objective: To study the possibilities of open mitral commissurotomy for isolated mitral correction.

Methods: A retrospective analysis was conducted on group included 225 patients with MP who were undergoing surgical treatment at the National Institute of Cardiovascular Surgery named after N.M. Amosov of the Academy of Medical Sciences of Ukraine from January 1, 1981 to January 1, 2008. All patients underwent correction of the bladder using OMC (146), as well as in combination with other plastic surgeries on the bladder (79 patients), incl. application of a support ring, suture commissuroplasty, resection of the posterior leaflet. Due to LA thrombosis, thrombectomy was performed in 71 (31.6%) patients. Correction of tricuspid defect in the form of annuloplication according to N.M. Amosov-De Vega was performed in 69 (30.7%) patients. Paraannular plication of the posterior wall of the left atrium using the Kawazoe technique was performed in 2 (0.9%) cases.

Results: Of the 225 operated patients in the hospital stage (within 30 days after surgery), none died. Neurological (transient) complications were noted in 3 (1.3%) patients. Stay in the intensive care unit for 38-56 hours. Patients were discharged on average 9-11 days after surgery without clinically significant complications.

Conclusion: Open mitral commissurotomy is an adequate method of surgical correction of urinary tract with a minimal risk of fatal complications. The technique is applicable both in isolation and in combination with commissuroplasty and the application of a support ring. The low probability of developing thromboembolic complications in patients with thrombosis of the left atrium allows us to recommend OMC as the operation of choice for massive thrombosis of the left atrium.

Introduction

Surgical treatment of isolated mitral disease (MP) is one of the important sections of surgery for acquired heart defects [1-6].

These should include the category of patients in whom it is possible to perform open mitral commissurotomy (OMC) for correction, as well as in combination with other procedures on the mitral valve (MV) (support ring, resection of the posterior leaflet) [1-7]. Of particular interest is the use of OMC in cases of correction of MP with a small cavity of the left ventricle and massive thrombosis of the left atrium (LA) [1,3,5,7].

Materials and methods

The analyzed group included 225 patients with MP who were undergoing surgical treatment at the National Institute of Cardiovascular Surgery named after N.M. Amosov of the Academy of Medical Sciences of Ukraine from January 1, 1981 to January 1, 2008. All patients underwent correction of the bladder using OMC (146), as well as in combination with other plastic surgeries on the bladder (79 patients), incl. application of a support ring, suture commissuroplasty, resection of the posterior leaflet. Due to LA thrombosis, thrombectomy was performed in 71 (31.6%) patients. Correction of tricuspid defect in the form of annuloplication according

to N.M. Amosov-De Vega was performed in 69 (30.7%) patients (Figure 1).

Paraannular plication of the posterior wall of the left atrium using the Kawazoe technique was performed in 2 (0.9%) cases (Figure 2).

The age of those operated on ranged from 21 to 65 years (average 51.3±6.1 years). Among those operated on, 151 (67.1%) patients were in NYHA functional class IY according to the New York classification, 69 (30.7%) patients were in class III and 5 (2.2%) patients were in class II. There were 69 men (30.7%), 156 women (69.3%). Mitral stenosis was observed in 191 (84.9%) patients, and a combined defect without predominance in 34 (15.1%) patients. The etiological cause of MP was: rheumatism (72%), rheumatism + lipoidosis (23%), degenerative, age-related changes (5%). Post-mortem calcinosis MK was noted in 17 (7.6%) patients. In 3 (1.3%) patients, a closed mitral commissurotomy had previously been performed.

Initial damage to the central nervous system due to a previous cerebrovascular accident, head injury with the formation of cysts was registered in 9 (4.0%) patients.

All operations in the main group were performed under artificial circulation and moderate hypothermia (32-35 C).

Myocardial protection was carried out mainly

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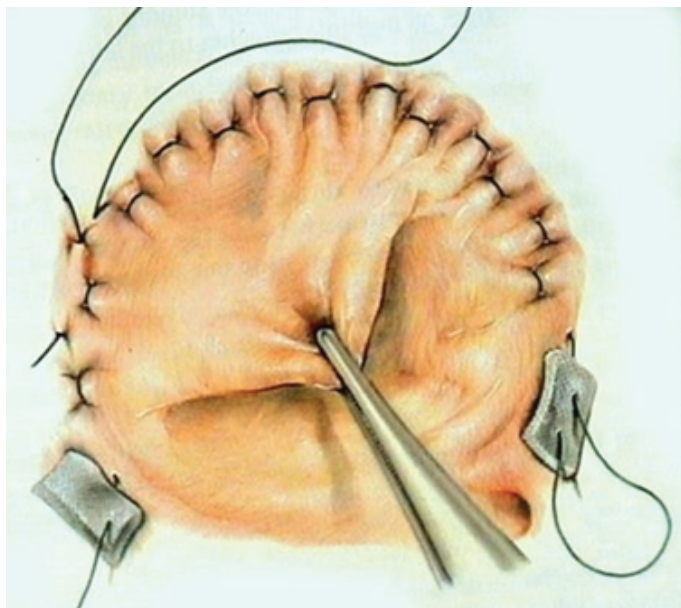


Figure 1. Annuloplasty of tristool valve



Figure 1. Annuloplasty of tristool valve

under conditions of ante-retrograde pharmacocold cardioplegia according to a recipe close to that of St. Thomas.

Access to the MK was carried out through the LA behind and parallel to the interatrial groove (216), as well as through the right atrium and interatrial septum [9]. Inspected Mk. Separation along the commissures was performed with a scalpel, after which its competence was assessed visually, as well as during a hydrotest. If there were areas of regurgitation, then the Reed commissuroplasty procedure was supplemented in these areas. Over the past decade, they have refrained from performing papillotomy, since this leads to dysfunction of the papillary muscles in the long term and the progression of mitral regurgitation. In the presence of LA thrombosis, the appendage was ligated, and in the presence of massive thrombosis (27 patients), the thrombi were removed with the base-lining. CPB time was 61.4± 7.1 minutes, and aortic cross-clamping - 45.4 ± 7.8 minutes. Blood loss averaged 300-450 ml. 21 operations were performed without the use of donor blood.

Results and its discussion

Of the 225 operated patients in the hospital stage (within 30 days after surgery), none died. Inotropic support (dopmin-dobutamine) in the early postoperative period was within 2-3

µg/min/kg. Neurological (transient) complications were noted in 3 (1.3%) patients. Stay in the intensive care unit for 38-56 hours. During an echocardiographic study at the hospital stage, the gradient on Mk was 7.8±0.7 mmHg, and regurgitation within + 1 was noted in 13 (5.8%) patients. Patients were discharged on average 9-11 days after surgery without clinically significant complications. The correction results are presented in Table 1.

According to Table 1, the results for all clinical subgroups were, however, the same.

In the outpatient period, 215 (95.5% of the number of discharged) patients were fasted. Further results are presented in Table 2

According to Table 3, the results for all clinical subgroups in the long term, the best results were in the groups with the application of a support ring and suture plastic lower in the group of isolated OMC (p<0.05).

3 119 unsatisfactory results in term 19.8± 1.7 cases in 75 (63.0%) or 34.9% of the total number of prostases in the patient's terminology removals was repeated surgery - valve replacement due to the activity of the rheumatic process.. We analysed in real time survival, stability of good results, and freedom from reoperations (Figure 3).

Table 1. Structure of results at the hospital stage by clinical groups

Type of operation	Hospital result of the operation				
	Dobry	Zadovolny	Unhappy	Died	Everything
Compulsory medical insurance	71	27	2	0	146
	67.60%	31.00%	1.40%	0.00%	100.00%
Compulsory medical insurance + support ring	96	37	1	0	39
	73.10%	24.30%	2.60%	0.00%	100.00%
Compulsory medical insurance + suture plastic	278	149	1	0	40
	62.00%	35.50%	2.50%	0.00%	100.00%

Table 2. Result of open commissurotomy for up to 20 years

Procedure	Garnius (n\%)	Zadovilny (n\%)	Unhappy (n\%)	Died (n\%)	Everything (n\%)
Open mitral comisurotomy	13	49	119	34	215
	6	22.8	55.4	15.8	100

Table 3. Structure of results at the hospital stage by clinical groups

Type of operation	Further result of the operation				
	Dobry	Zadovilny	Unhappy	Died	Everything
Compulsory medical insurance	7	27	2	0	146
	5.4%	20	1.40%	0.00%	100.00%
Compulsory medical insurance + support ring	3	21	10	5	39
	7.8%	53.8%	25.6%	12.8%	100.0%
Compulsory medical insurance + suture plastic	3	136	1	0	40
	7.5%	18	2.50%	0.00%	100.00%

Actual analysis of survival, stability of good results and freedom from reoperations

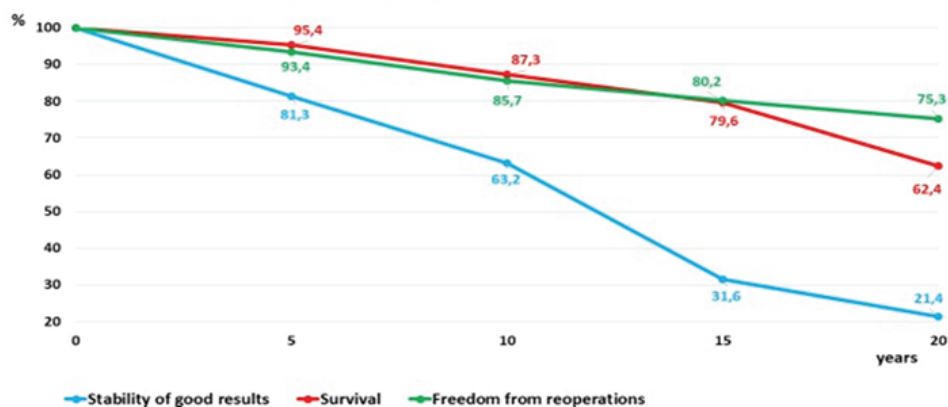


Table 3. Structure of results at the hospital stage by clinical groups

Conclusion

Open mitral commissurotomy is an adequate method of surgical correction of urinary tract with a minimal risk of fatal complications, although only up to 10 cases can be considered as a satisfactory effect of treatment. The technique is applicable both in isolation and in combination with commissuroplasty and the application of a support ring. The low probability of developing thromboembolic complications in patients with thrombosis of the left atrium allows us to recommend OMC as the operation of choice for massive thrombosis of the left atrium. In the presence of a critically small cavity of the left ventricle (LV) (terminal-diastolic volume less than 70 ml), dosed OMC can become an alternative to prosthetics and eliminate the syndrome of obstruction of the LV outflow tract (small cavity syndrome of the LV).

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