

-

*

12			(55)
		2003	29 - 2002
		(35)	
	44.3	72 - 20	
9	(Epicardial)	46	(Endo cardial)
		:	
		49	.1
	24		.2
		7	.3
			.4
			.5
			.6

*

—

—

% 81.8 45

(% 81.30) 26 32

:

—

7

5

8

3

1

2

.() % 3.6

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Ablation of Atrial Fibrillation with Microwave -The Early Experience

Gasaan Mourad*

Abstract

Surgical ablation of atrial fibrillation (AF) has been gaining ground as the preferred method of treatment of this potentially lethal arrhythmia affecting 1/3-1/2 of patients with mitral valve diseases.

It is specially suited for patients undergoing an operative procedure.

Between Dec 12,2002 and Dec 29,2003 ,fifty five operative patients with chronic AF were subjected to AF ablation with microwave energy at Damascus University Cardiovascular Surgical Center .

Thirty five patients were female; age ranged between 20 and 72 years.

All of them had chronic AF.

Forty five patients (81.8%) had their AF reverted to sinus rhythm after surgery. Thirty two patients were followed for at least 6 months, 26 of them (81.3%) are now in Sinus rhythm.

Operative mortality was 2 (3.6%) .

There are currently 3 modes of treatment for chronic AF. Medical treatment is by far the least efficacious and harbors significant morbidity. AF treatment by interventional electro physiologic ablation has a low efficiency, is quite prolonged and is accompanied by a number of potential hazards. Surgical ablation seems at present to be the most successful and lasting mode of treatment . While the Cox-maze III is still considered the gold standard to which other types of surgical ablation are compared , it is a prolonged operation and is not without risks.

Cryoablation, Radiofrequency, Microwave or Ultrasound energy may not obtain the higher-than90% success rate reported with the surgical maze, but their results are not too far off that figure.

Key Words:

Atrial Fibrillation – Ablation- Mitral valve disease.

* Instructor. Dept. Cardiac surgery. Faculty Medicine, Damascus University.

72 - 20 :
 . 44.3

- 2002 12
 .2003 29
 /35/ /55/

1

MS	9
MI	8
MS+MI	25
AS/AI (IMI)	7
	3
	1
	2
Total	55
+ TI	22
+ TS/TI	2
+ LA clots	2

MS: , MI: , AS: ,
 AI: , ASD: , LA: ,
 TI: , TS:

New)) NYHA

:(York Heart Association

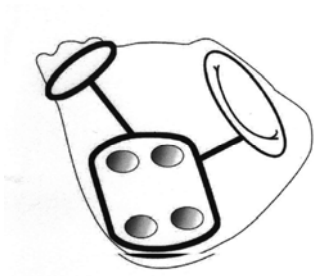
8 -I

20 -II

23 -III

4 -IV

.-1



(1)

-4.1

.(6.3) 17

51.2 (117-37)

% 60-20

.(%40)

."8" -2-

2)

46

(Flex

FX

.(Flex 4)

.(((Ejection Fraction)) %20)



Amiodarone

(2)

) 45
(%81.80

(Sotalol(,
(Amiodarone)

7.6

.(0.001> P) 5.7

%78

.% 81.3 90)

(

:

Cox-mazeIII

:

"10-9 "

.MazeIII

%90

50

-4-3" MazeIII

16

%

.5 (12 -11 -10 -9)

%

"13"

Tikosyn

(Dofetilide)

% 80

"15-14"

%90

."3"

° 50

."15"

."17-16-15-14"

Table 2

%61		105	2002	KNAUT	"14"
%80		50	2002	MAESSEN	"15"
%73		16	2003	RANDOLPH	"16"
%86		28	2003	THOMAS	"17"

References

1. Giardina EG. Atrial fibrillation and stroke: elucidating a newly discovered risk factor. *Am J Cardiol* 1997;80:11-18
2. Nattel S., New ideas about atrial fibrillation 50 years and on. *Nature*. 2003;415: 216-219
3. Cox JL, Ad N, New surgical and catheter-based modifications of the Maze procedure. *Semin Thorac Cardiovasc Surg* 2000;12:68-73
4. Bando K, Kabayashi J, Kosakai Y, Hirata M, Sosako Y, Nakatani S, Yagihara T, Kitamura S. Impact of Cox-Maze procedure on outcome in patients with atrial fibrillation and mitral valve disease. *J Thorac Cardiovasc Surg* 2002; 124:575-583
5. Sie HT, Buekema WP, Ramdat Misier AR, Elvan A, Ennema JJ, Haalebos MM. Radiofrequency modified Maze in patients with atrial fibrillation undergoing concomitant cardiac surgery. *J Thorac Cardiovasc Surg* 2001; 122:224-246
6. Maessen JG, Nijs JF, Smeets JL, Vainer J, Mochtar B. Beating-heart surgical treatment of atrial fibrillation with microwave ablation. *Ann Thorac Surg*. 2002; 74:S1307-1311
7. Schuetz A, Schulze CJ, Sarvanakis KK, Mair H, Plazer H, Kilger E. Surgical treatment of permanent atrial fibrillation using microwave energy ablation: a prospective randomized clinical trial. *Eur J Cardiothorac Surg* 2003;24:475-480
8. Saltman AE, Rosenthal LS, Francalancia NA, Lahey SJ. A completely endoscopic approach to microwave ablation for atrial fibrillation. *Heart Surg Forum*. 2003; 6:E38-41
9. M.D. Ezekowitz and P.I. Netrebko. Anticoagulation in management of atrial fibrillation. *Current Opinion in cardiology* 2003;18:26-31.
10. T. Lundstrom and L. Ryden. Chronic atrial fibrillation . Long-term results of direct current conversion. *Acta Medica Scandinavica* 1988;223:53-9.
11. Van Gelder IC, Crijns HJ, Tieleman RG, et al. Chronic atrial fibrillation Success of serial cardioversion therapy and safety of oral anticoagulation. *Arch Intern Med* 1996;156:2585-2592.

12. Davies MJ, Pomerance A. Pathology of atrial fibrillation in man . Br Heart J 1972;34(5):520-5.
13. Cleveland Clinic Heart Center . Treatment of atrial fibrillation . A. Marc Gillinov, M.D. and Andrea Natale, M. D.
14. M.Knaut, S.M. Tugtekin , S.Spitzer and V.Gulielmos. Combined atrial fibrillation and mitral valve surgery using microwave technology. Seminars in Thoracic & Cardiovascular Surgery. 2002;14:226-31.
15. Maessen JG, Jijs JFMA,Smeets JLRM, Vainer J, Mochtar B. Beating heart surgical treatment of atrial fibrillation with microwave ablation. Ann Thorac Surg 74:S1307-11,2002.
16. Combining Robotic Mitral Valve Repair and Microwave Atrial Fibrillation Ablation : Techniques and Initial Results
W. Randolph Chitwood, Jr, MD. FAXS
Ann Thorac Surg 2005; 79:480-484 © 2005 the Society of Thoracic Surgeons.
17. New technology Midterm Clinical Experience With Microwave Surgical Ablation of Atrial Fibrillation . Thomas A. Molloy, MD
Ann Thorac Surg2005; 79:2115-2118 © 2005 The Society of Thoracic Surgeons.

.2004/6/3 :

.2005/8/30: