

Experience With Various Surgical Options for the Treatment of Atrial Fibrillation

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Introduction

Atrial fibrillation continues to be a continuing problem with post-operative occurrence rates from approximately 15 to 35%. Various new procedures have been introduced to treat both lone atrial fibrillation and concomitant occurrences. These include uni-polar and bipolar radiofrequency and cryotherapy ablation techniques.

This study compared our experience with these procedures to the standard cut and sew Maze III.

Methods

The review studied 70 patient who had undergone an ablation procedure between 8/1996 and 8/2003. The group consisted of 58 continuous and 12 paroxysmal, with 12 operated on as a lone procedure and 58 as a concomitant procedure. Data was unavailable for 12 patients (6 having no followup and 6 who died with no recorded data on the status of the atrial fibrillation), leaving 58 patients available for review. The procedures carried out include the traditional Maze III lesion set, pulmonary vein isolation, and a left side maze consisting only of a pulmonary vein isolation and mitral annular connecting line

Results

The results of using the different treatment modalities are shown in Table 1. Logistic regression analysis was carried out on the data to determine factors predictive for successful return to normal sinus rhythm. Variables included energy source, lesion set used, duration of atrial fibrillation, and whether it was a lone or concomitant procedure. No variables were found to be predictive.

Discussion

Examination of patients still in atrial fibrillation after treatment suggested the following potential causes: 1- selection of sub-optimal lesion set 2- failures in application of technology, 3- learning curve.

Early experience with the newer surgical techniques suggests that they may yield results comparable to traditional cut and sew Cox-Maze III procedures but with fewer incision lines.

Chart 1

