**LOW ENERGY CARDIOVERSION FOR ATRIAL FLUTTER**

V.O. Obi, N. Isber, D. Bloomfield, **M. Arulthasan**

Richmond University Medical Center, Staten Island, New York NY, USA

Atrial flutter can be electrically cardioverted with small energy levels less than 50J, decreasing the risk of skin burns. In our series, successful return to sinus rhythm was achieved in 65% with energy levels averaging 21J. In order to avoid the need for repeated shocks, we studied comorbidities to determine which patients were no more likely to require a high energy level.

*Method*. 44 patients with atrial flutter underwent cardioversion initially at low energy levels below 50 J. If the procedure was unsuccessful, a shock of great energy was utilized. In all patients, comorbidities of hypertension, hyperlipidemia, diabetes, coronary artery disease, congestive heart failure, prior pacemaker insertion together with age, sex and weight were recorded. The patients were separated into a low energy group (below 50J) and a high-energy group (above 50J) and compared using a two-sided t-test with 95% confidence interval statistical analysis.

*Results*. Females showed a high requirement of energy (p=0.018) but there was no significant differences in regard to age and weight. Coronary artery disease showed a relationship to low energy (p= 0.0046) as it did congestive heart failure (p=0.033). The other comorbidities showed no difference between the requirement of low or high energy levels for successful cardioversion.

*Conclusion*. Effective low energy cardioversion, though important in reducing the mild side effects such as burns and muscle fatigue, failed to convert one third of the patients. The inability to predict which patients would require higher energy leads to the recommendation that all cases of atrial flutter should be cardioverted initially at energy levels higher than 50J.