**CLINICAL VARIABLES ASSOCIATED WITH THE DEVELOPMENT OF ELECTRICAL STORM IN PATIENTS WITH CHAGAS’ DISEASE AND AN ICD**

**W.F. McIntyre1**, M. Valentino2, A. Treggia2, W.M. Hopman MA1, A. Baranchuk1

1Kingston General Hospital, Queen’s University, Kingston, Ontario, Canada,

2Sanatorio Parque, Rosario, Argentina

Background: Chagas’ disease is a parasitic endemic disease that affects more than 120 million people in Latin America. About 30 % of infected people will develop chronic Chagas’ cardiomyopathy (CChCM). Sudden death due to malignant ventricular arrhythmias is common in afflicted individuals. Implantable cardioverter-defibrillators (ICD) have proven to be an effective treatment. Electrical storm (ES) is considered a catastrophe in patients with an ICD. ES has never been systematically characterized in patients with CChCM.

Objectives: To compare clinical characteristics of two groups of patients with CChCM and an ICD: those with and those without ES.

Methods: Retrospective analysis of electronic charts and stored ICD electrograms of a single center in Rosario, Argentina. Chi square tests were used for dichotomous variables and the student’s t and Mann-Whitney U tests were used for continuous variables.

Results: Twenty-three consecutive patients were analyzed. Indications for ICD implantation included: aborted sudden death (4), monomorphic ventricular tachycardia (VT) (8), syncope with inducible VT (6) and primary prevention (3). During a mean follow-up of 34 months (6-73), 6 patients (28.5 %) developed ES. The two groups are compared in the table.

|  |  |  |  |
| --- | --- | --- | --- |
|  | ES group (n=6) | Non-ES group (n=17) | p |
| N | 6 | 17 |  |
| Age (range) | 62 y (54-73 y) | 57 years (35-75 y)  | 0.39 |
| Male Gender | 66 % | 47 % | 0.40 |
| NYHA (II/III) | 100 % | 47 % | 0.04 |
| Mean EF (range) | 36.5 % (20-45 %) | 46.9 % (28-70 %) | 0.10 |
| Mean Episodes/Patient | 14.2 (1-47) | 2.8 (0-31) | 0.008 |
| Total Mortality | 16 % | 11 % | 0.75 |

Patients with ES had more severe NYHA symptoms, a lower ejection fraction, and experienced more episodes of VT/VF per patient.

Conclusion: In patients with CChCM and an ICD, a lower ejection fraction and more advanced symptoms of congestive heart failure are associated with a higher risk of developing ES.