Incidence of Atrial Fibrillation in an Isolated Indigenous South Pacific Population

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Introduction: Natives of the South Pacific Fijian islands have the second highest incidence of type 2 diabetes in the world. According to the WHO, the worldwide rate of Type 2 Diabetes is 8.5% and in Fiji it is 13.5%. Previous studies have shown that AF is one of the most common concomitant diseases seen with DM. The Framingham study has demonstrated that DM is an independent risk factor for AF. The island of Batiki is a remote island and is part of the country of Fiji. It is 12 square kilometers and home to 234 residents. They have limited medical resources and access to healthcare. Most have never left the island. It is unknown what the incidence of AF is in such a population. We hypothesize that the incidence of AF will be higher than the general population given the prevalence of diabetes seen in these population. Our objective was to determine the true incidence of AF in a population of native Fijians on a remote South Pacific Island of Batiki.

Methods: 3 doctors and 1 nurse travelled to the South Pacific Island of Batiki as part of a medical relief team. We set up a medical clinic for the treatment of all island inhabitants. As part of the clinic operations, 78 consecutive patients who were native to the island of Batiki were screened for AF using a Kardia mobile ECG devices donated by AliveCor. Patients were seen for routine physical exams and the presence or absence of AF was recorded. Single lead ECG tracings were obtained and adjudicated by MDs on site. ECGs were classified as AF, NSR, or other. The presence of diabetes was confirmed with a point of care Hemoglobin A1C testing.

Result: After screening 78 consecutive patients only one case of AF was identified (1.3%). There were 3 cases of Bradycardia, 1 case of Sinus tachycardia and one case identified as First degree AV block. There were 12 patients with Diabetes (15%)

Conclusion: The incidence of AF on the island of Batiki was quite low with only one patient identified. While we believe that DM is associated with AF and the incidence of DM on this island is consistent with that reported countrywide in Fiji, there does not appear to be a correlation between diabetes and AF on Batiki. The islanders of Batiki remain quite active, and certainly a vast majority meets the current ACC/AHA guideline for physical activity. Perhaps regular, cardiovascular exercise is providing a cardio-protective effect which reduces the risk of atrial fibrillation. In addition, although the incidence of diabetes is as expected, the majority of the islanders are not obese. There is a clear association between obesity and atrial fibrillation. Perhaps, the overall lack of obesity is also protective against atrial fibrillation.