

Ghana: Pacing Mission

Introduction

We are a collaborative group of cardiologists and cardiothoracic surgeons working between Teesside in the UK and Kumasi in Ghana to develop a sustainable and wide-ranging cardiac services program. Komfo Anokye Teaching Hospital (KATH) is located in Kumasi, the capital of Ashanti Region in Ghana. The geographical location of the 1000-bed teaching hospital, the road network of the country and commercial nature of Kumasi make the hospital accessible to all the areas that share boundaries with the Region. The department runs emergency service 24 hours, seven days a week. Referrals from regional hospitals, district hospitals, general practitioners and physician specialist clinics are admitted to the medical wards through the emergency unit. All general surgical specialties are represented in the hospital and cardiac surgery represents one of the only specialties that do not perform regular surgery. There are 6 cardiologists in the hospital with echocardiography equipment and the infrastructure to manage outpatient and inpatient cardiology conditions.

As part of this collaboration, we are looking at novel and innovative ways to identify those in the local population most at risk of adverse sequelae from structural and electrical cardiac problems.

Missions

Our initial visit in 2019 was successfully conducted over a week in February and we performed 4 heart operations and 5 pacemaker procedures. We performed over 20 echocardiograms whilst teaching and training the local cardiologists and surgeon. We taught advanced cardiac resuscitation skills to the local nursing and intensive care staff and worked to increase the skills of the cardiac anaesthetists. However more importantly we demonstrated that it was possible to safely conduct permanent pacemaker implants and heart surgery in Kumasi and also to be able to begin to train the staff out there. Links were made with each individual group of staff members and training was extensively performed including an online E-learning programme that was delivered to their department and a manikin training programme that we performed while there.

Since our initial visit in 2019, we have now undertaken three further missions and worked collaboratively with several other US units to co-ordinate and deliver a package of training to the local team in Ghana to allow them to insert pacemakers and screen for valvular heart disease in addition to performing cardiac surgical procedures. The work we are doing is endorsed by Arrhythmia Alliance and we have formed the "Hearts of Ghana" charity.

Over the last 18 months we have been working closely with Lavan Balasundaram and pace4life (<https://www.pace4life.org/>), a charitable organisation that is

undertaking a project that will see thousands of discarded pacemakers sent to needy individuals in resource poor countries such as Ghana using creative methods of delivering costly healthcare to countries to make a lasting impact to the health and well-being of people by re-using pacemakers which are currently thrown away in the UK as waste. Furthermore we are working collaboratively with Associate Professor Thomas C. Crawford, Division of Cardiovascular Medicine, Director and Principal Investigator — Project My Heart Your Heart, The University of Michigan. There is a great disparity between the high and low income countries in terms of pacemaker and defibrillator availability. Each year 1-2 million individuals worldwide die due to a lack of access to pacemakers and defibrillators. Meanwhile, almost 90% of individuals with pacemakers would donate their device to others in need if given the chance. We are working to enroll Kumasi as an implanting center for a formal RCT: My Heart Your Heart (MHYH): Prospective Evaluation of the Safety and Efficacy of Cardiac Pacemaker Reuse in Low to Middle Income Countries.

Future Plans

We propose to perform a series of missions to Kumasi to progress them towards the goal of a fully functioning independent Cardiac Surgery and Cardiology unit. In addition to the mission programme, we are seeking to strengthen the screening process for patients in Northern Ghana through an increased availability of ECGs and pulse checking, leading to the increased identification of patients with atrial fibrillation, heart block and need for pacing in addition to those with valvular heart disease.

News

The Ghanaian team implanted their 1st independent pacemaker March 2020

See our story on the BBC From Jonathan Swingler

<https://www.youtube.com/watch?v=IDBbJUW9TMo>

See the whole series of mission videos of our trip in February 2019 here

<https://www.ctsnet.org/article/daily-video-blog-medical-mission-ghana-february-23-march-1-2019>