BDIAP Fellowship report and attendance at virtual IAP/ESP meeting (Glasgow) 2020

Name of bursary recipient:
Joseph Westaby

Year Bursary awarded:
2020

Trust where employed:
St George's, University of London/St George's, University Hospital Trust

Trainee grade:
Senior Registrar

General background of Project:
Cardiac innervation in the normal heart – The innervation of the normal human heart has not been studied in detail. I have used immunohistochemistry to characterise the nerves within the normal myocardium. This will form the basis for future study of pathological conditions to assess whether there are alterations which may explain the development of lethal ventricular arrhythmias.

Topic of research:
I choose the topic. My interests are sudden cardiac death and cardiovascular pathology. I find the mechanisms which predispose to and directly cause sudden death fascinating. It is an area which is in desperate need of research as cardiovascular disease is the most common cause of death globally.

Department where the research was carried out:
Cardiac Risk in the Young Cardiovascular Pathology Laboratories, Cardiovascular Clinical Academic Group, Molecular and Clinical Sciences Research Institute, St George's, University of London

A summary of the project, your role in it. What were the aims and objectives? What methods were used, what did you learn from this experience. You may want to mention your supervisor and their role as this project may be part of a larger project. What results did you get? Were they what you expected? If not, what were the problems that you encountered?
Cardiac innervation in the normal heart – The aim was to characterise the innervation in the normal heart. The project consisted of utilising immunohistochemistry (performed by hand) to stain sections from normal hearts from individuals with a non-cardiac cause of death. Following staining the slides were scanned to produce digital images. The staining was then semi-autonomously quantified using image analysis software. I learnt a number of new techniques including antibody optimisation, slide scanning and application development for the image analysis software. This initial project will form the basis for my PhD to allow me to compare the cardiomyopathies to normal hearts under the supervision of Professor Sheppard. The right ventricular outflow tract showed significantly higher density of innervation compared to the left ventricle which was unexpected. This was not a problem but rather a reflection on the paucity of literature addressing this topic.

What proportion of the project was histopathology?
100%

Has this experience changed your views about Histopathology and research? If so, in what way?
No, I am still passionate about histopathology and research and wish to continue towards an academic clinical lecturer post.

Did COVID-19 impact your research? If so in what way?
Yes, it delayed the research as I was unable conduct research during the first wave.

Did you enjoy the meeting? What were the highlights for you? What would you like to see more of and less of?
Yes, I enjoyed the meeting. The autopsy sessions and cardiovascular sessions were packed full of interesting talks and the panel discussions were enthralling.

How did your presentation go? What did you enjoy about preparing the presentation and delivering it? What did you not enjoy about it?
The poster was viewed by a number of people and I received a number of questions and on this basis, I feel it was successful. I enjoyed putting the poster together, the statistical analysis and finding novel results. I prefer to present in person as I feel it helps more with networking.

Finally, I would like to say a big thank you to the BDIAP for awarding me this fellowship which has been invaluable in furthering my PhD, this project and my career. I will make sure to acknowledge the BDIAP in any associated posters, talks or presentations.