



British Association  
of Dermatologists

*healthy skin for all*

# British Association of Dermatologists Elective Prize Report

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For my final year elective, I spent two and a half months at Harvard Medical School and Brigham and Women's Hospital in Boston. Throughout this elective, I aimed to become a more independent investigator by conducting a research project from start to end, compare the American and the British healthcare systems, and immerse myself in the thriving health technology and innovation community in the Boston area.

To keep abreast of the latest developments in the field of dermatology, I actively explored several research topics of my interest. I was especially intrigued about checkpoint inhibition with anti-PD-1 therapy, which appears to be one of the most promising avenues for the treatment of advanced cancer. Anti-PD-1 antibodies enhance T cell anti-tumour capacity by blocking the downstream effects of PD-L1, a ligand expressed on tumour cells that binds to PD-1 on T cells, inhibiting their killing capacity. Although multiple clinical trials using these antibodies have shown unprecedented response rates in metastatic melanoma, there is a sizeable proportion of non-responders, along with several rare but major side effects. Despite these concerns, there is a current lack of robust molecular biomarkers that can predict treatment response and guide management in this group of patients, which constitutes an important unmet need with high potential.

Furthermore, I arranged a research project to evaluate the current staging systems for penile squamous cell carcinoma (pSCC). I was interested in this question because pSCC is associated with high cancer-specific mortality, and staging systems are vital to group patients into prognostic categories, leading to better management. Despite the importance of tumour staging, no studies to date have validated the currently used staging systems for pSCC, namely the 7<sup>th</sup> and 8<sup>th</sup> editions of the American Joint Committee on Cancer classification. Therefore, my aim was to compare the ability of these two systems in discriminating between poor patient outcomes. We conducted a 20-year retrospective cohort study of 144 patients, and found that a high proportion of patients had poor outcomes, including local recurrence, distant metastasis, and death. More importantly, our results show that the current staging systems are

inappropriate at discriminating between poor outcomes in patients with pSCC, suggesting an urgent need for improvement. We are planning to develop a better staging system than the currently available ones, which would group patients better depending on their prognostic outcomes, in turn resulting in more effective and personalised treatment for patients.



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To explore the workings of the American healthcare system, I also attended clinics, ward rounds and grand rounds at Massachusetts General Hospital, Brigham and Women's Hospital, and Dana-Farber Cancer Institute. Although the quality of care and the day-to-day job of doctors were broadly similar to the UK, the principles under which the healthcare system operates were rather different from the NHS. It was enlightening to acquire a more thorough understanding of

how American healthcare works from both the supply and demand sides. I was especially interested to learn more about the consequences of the Affordable Care Act in 2010 and changes in public health care coverage programmes including Medicare and Medicaid.



Front entrance of Massachusetts General Hospital

On a slightly different note, I also learnt that Boston offers an unparalleled environment for health innovation. During my free time, I attended health technology conferences and talks at Harvard T.H. Chan School of Public Health, Harvard Business School, and MIT. Through attending workshops and talking to people from cross-disciplinary fields, I learnt about novel exciting developments in medical devices and digital health, including how artificial intelligence is soon predicted to revolutionise medicine as we know it.

I would like to thank the British Association of Dermatologists for their generous contribution towards funding my elective. Thanks to them, I was able to gain further insight into my interest in both academic and clinical dermatology.