

Vaishnavi Sabarigrivasan - Summer Research Report Funded by Pathology Society and Jean Shanks Foundation

For 6 weeks over the summer, I completed a research project at the Institute of Neurology, Neuropathology Department funded by Pathology Society and Jean Shanks Foundation as part of the Rani Rawji Studentship. My research was looking into CSF cytology changes before and during the covid-19 pandemic to better understand the neurological effects of the covid virus and the mechanism of damage in the central nervous system. We assumed that there was a greater incidence of covid-19 in the population than was reported. In addition, using covid testing the CSF is difficult due to the transitory nature of CSF viral testing and a lack of standardisation across samples that weren't admitted for infective indications. Using a final cohort of over 600 samples cleaned from an original cohort of over 1200 samples, we used stata to perform logistic regression analysis and chi-square to assess the correlation between the pandemic and CSF pleocytosis. The results showed that there was a significant increase in white cell count and presence of neutrophils in the during covid cohort despite a decrease in samples reported for inflammatory indications suggesting CSF effects correlated with covid-19 infection.

I enjoyed my placement, especially the chance to take a project to completion from the initial data gathering and cleaning, to writing an article at the end that is being submitted for publication. I gained the skills to come up with suitable parameters on which to include or exclude pathological samples for consideration in the study, and the use of pathology reporting systems. In addition, I felt I improved my problem-solving skills, as I had little supervision and was given a lot of freedom throughout the project, particularly in terms of deciding which statistical programs and tests to use.

I also gained a lot from attending the pathology reporting meetings and was welcomed by the team who took the time to teach me how to identify different types of brain tumours under the microscope and the relevance to clinical medicine, as well as other aspects of neuropathology.

Overall, taking part in the studentship was a fantastic learning experience for me and really allowed me to put into use the skills I gained during my iBSc, as well as building on them to complete a project that I plan on taking further, hopefully to publication and to a presentation at the Pathology Society Winter Meeting. Although I did my research project a year later due to covid, being a part of the studentship team was a massive influencing factor in my decision to apply to the MBPhD programme, and I look forward to having a fruitful research career for the next three years.