Investigating genetic variants in the progression of autoimmune membranous nephropathy

Membranous Nephropathy (MN) is one of the most common causes of kidney disease worldwide. Despite presenting to their doctors in similar ways and with similar symptoms, patients can have very different outcomes. Some patients will get better on their own whilst others may continue to get worse even with treatment, eventually needing a transplant. Why this happens is still unknown. There is a strong genetic component to MN, and this along with what we know about how the immune system attacks the kidney to cause the disease, suggests genetics may also be involved in not only developing the disease but how severe it is as well. This project will use data from two large studies from the US and Europe, to look at two different groups of patients with MN. One group will be patients who get better and achieve remission whilst the second group will be MN patients who do not get better and continue to get worse. As a control group we will use patients with IgA Nephropathy. These two studies (NEPTUNE and CureGN) have performed extensive state-of-the-art genetic testing which we will use to see if there are any differences between the groups. By doing this, in the future, we will be able to use a patient’s genetic makeup to help guide treatment in a more personalised way, allowing for more effective treatment with less side-effects. It will also help us to understand the disease better, which in turn can help us to develop treatments designed especially for MN.