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Different types of PSS have unique patterns of clinical and biological characteristics: Newcastle University

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A new study has shed light on a debilitating autoimmune condition by identifying a number of subtypes of the disease which could lead to personalized treatment for patients

For the first time, scientists at Newcastle University have found there are at least four versions of primary Sjögren's syndrome (PSS)- a chronic inflammatory disease that affects the parts of the body that produce fluids, like tears and saliva.

The study, published in The Lancet Rheumatology, shows that the different types of PSS have unique patterns of clinical and biological characteristics that may respond to different treatments.

Sjögren's syndrome is an incurable disease which affects up to 1.2% of the population and is characterised by oral dryness, muscle pain and severe fatigue.

Scientists believe their findings have key implications for drug development, particularly in clinical trial design and informing molecular targets.

Professor Fai Ng, from Newcastle University’s Faculty of Medical Sciences, led the European study, which is the first to report distinct subtypes of the immune inflammatory disease.

He said, “We are very excited about our findings. To date, we have no effective treatment for this condition, and we believe our study may help significantly with drug developments into PSS. One of the key barriers to research has been that the clinical presentations of patients with the condition differs markedly from patient to patient. Knowledge of these subtypes will now help us to develop more personalised management plans for those with the condition, which in turn will help to improve people’s quality of life.”

The traditional view is that PSS only has two main subtypes, but this has been viewed as too simplistic as many patients don’t fall into the two classical groups.

Using data from the UK Sjögren's syndrome registry, experts identified four subtypes with distinct clinical and biological profiles, suggesting patients are likely to differ in their response to targeted therapies.

Professor Fai Ng said: “We find it particularly fulfilling that many patients can identify with these new subtypes, and that they ‘make sense’ to them in understanding the symptoms of their condition. A vital lesson we’ve learnt is the importance of a team science approach - we didn’t rely on clustering metrics alone but took into consideration the clinical experience and common sense.”

Further the research will focus on the biology of each Sjögren subtype; to test the stability and long-term outcome of each subtype and to validate the different responses to treatment of each.