NHS Tayside

Evidence-based alteration to the protocol for serological testing for rheumatoid arthritis

Partnership working between the Immunology Laboratory and Clinical Rheumatology Service in NHS Tayside identified that patient referrals for rheumatoid arthritis were disproportionately high in comparison to the expected epidemiology.

To address such a discrepancy the clinical decision was taken to alter the primary serological screening pathway for rheumatoid arthritis. The change from IgM rheumatoid factor (RF) to IgG anti-cyclic citrullinated peptide (CCP) antibodies was undertaken in 2005.

CCP is a more clinically specific test (Clinical specificity CCP >96% versus 86% for RF) and provides a more useful serological tool to triage patients with high likelihood of RA to secondary services, thus reducing inappropriate referrals.

Full demand management protocols were introduced in the laboratory resulting in increased scrutiny of CCP and RF requests. Processing of samples was undertaken being cognisant of clinical presentation for Rheumatoid Arthritis and relevant prognostic criteria. This protocol has continued for the last 10 years.

To this end it rationalised the requesting of rheumatoid serology by:

1. Removing the large scale (7500 per annum; 1.6% of total population of Tayside each year) inappropriate requesting of rheumatoid factor by users for general joint pain.
2. Use the funding saved by removing 95% of requesting for RF, to introduce CCP as the front line test for RA. NHS Tayside also undertook management of that change by clinical evidence based demand management, with a target to maintain testing of CCP to 1000 test per year (0.2% of total population of Tayside). Readers of this paper should note that Rheumatoid Arthritis is a rare disease, epidemiological evidence shows that the frequency of new presentations in the UK is 1:5000-10000 patient years (This would result in an estimate of 90-180 new patients each year in NHS Tayside.)
3. The process also allowed the diagnostic and clinical service to work together to minimise the inappropriate referral for patients with positive RF and no clinical evidence of RA, to secondary care rheumatology services.

This work has been shared with other diagnostic immunology providers in Scotland and as a result is being considered by other Boards with a view to introduction within a number of other laboratories. The process has also resulted in the consideration of whether similar work could be undertaken in the diagnosis of Connective Tissue Disease.