

Computer models predict patient response to HIV drugs without need for testing

Results of a new study demonstrate that computer models can predict how HIV patients whose drug therapy is failing will respond to a new treatment (Revell et al, 2013). Crucially for patients in poorer countries, the models do not require the results of expensive drug resistance tests to make their predictions.

The models were also able to identify alternative drug combinations that were predicted to work in cases where the treatment used in the clinic had failed, suggesting that their use could avoid treatment failure.

When a patient's HIV drugs begin to fail in well-resourced

countries a genotypic resistance test is performed to identify mutations that cause the virus to become resistant to certain drugs. The results are used to predict whether the patient will respond to different drugs in a new treatment. These tests are generally not available in resource-limited settings. This study shows that computer models can predict how such a patient will respond, with comparable accuracy, without the need for such tests.

'This is the first time this approach has been tried with real cases of treatment failure from resource-limited settings', commented Julio Montaner,

former President of the International AIDS Society, Director of the BC Centre for Excellence in HIV & AIDS, based in Vancouver, Canada and an author on the paper. 'The results show that using sophisticated computer based algorithms we can effectively put the experience of treating thousands of patients into the hands of the under-resourced physician with potentially huge benefits.'

Revell AD, Wang D, Wood R et al (2013) Computational models can predict response to HIV therapy without a genotype and may reduce treatment failure in different resource-limited settings. *J Antimicrob Chemother* Mar 13 (Epub ahead of print)

New basal insulin for adults with type 1 or type 2 diabetes

Insulin degludec (Tresiba) is a new once-daily basal insulin for adult patients with type 1 and type 2 diabetes. It is the first insulin to offer people with diabetes flexibility in the timing of insulin administration, when administration at the same time of day is not possible. A minimum of 8 hours between injections should always be ensured.

Advance in CT contrast dose management

The Certegra Infomatics software platform from Bayer HealthCare brings patient-focused contrast delivery management through a touch-screen hub that enables time savings and improved patient care. The system uses a suite of CT Contrast Dose Management tools and a new personalized patient protocol operating environment.

Pertuzumab licensed for advanced HER2+ breast cancer

Pertuzumab (Perjeta) has been granted a licence for patients with previously untreated advanced HER2-positive breast cancer in combination with the current gold standard of care, Herceptin and chemotherapy (docetaxel).

Risk of rheumatoid arthritis linked to lifestyle

Rheumatoid arthritis is a chronic disease which affects around 0.8% of the population. A UK-based research group has looked into the association between lifestyle factors and the risk of developing rheumatoid arthritis (Lahiri et al, 2013).

The research group looked at a sample of over 25 000 people, aged 40–79 years old, who have been followed over a number of years to see whether lifestyle factors had an effect on developing the disease.

When they compared 184 participants who went on to develop arthri-

tis to those who did not, they found that smoking, obesity and having diabetes all increased the risk. It was also found that drinking a small amount of alcohol and being in a higher social class were associated with a reduced risk of developing the disease.

The study also examined gender-specific factors and found women who had more than two children and breast-fed for a shorter amount of time also had a higher risk of developing rheumatoid arthritis.

The team concluded that this information could be used to develop a simple

screening tool to identify patients with a higher risk of developing rheumatoid arthritis who could be offered advice to reduce their risk.

Professor Ian Bruce, NIHR Senior Investigator and Professor of Rheumatology at The University of Manchester and consultant at Central Manchester University Hospitals NHS Foundation Trust, commented: 'The factors we studied give us vital clues to the early events in the process that ends in someone developing rheumatoid arthritis. They are also simple to ask about and can be used as part of a prevention programme.'

Lahiri M, Luben RN, Morgan C et al (2013) Using lifestyle factors to identify individuals at higher risk of inflammatory polyarthritis (results from the European Prospective Investigation of Cancer-Norfolk and the Norfolk Arthritis Register—the EPIC-2-NOAR Study). *Ann Rheum Dis* 16 Mar (Epub ahead of print)



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