THE PREDICTOR

PREDICTION-ADR Newsletter 2 September 2015

2015 Plenary in Uppsala

The PREDICTION-ADR team

The second plenary meeting of the PREDICTION-ADR consortium was held at Akademihotellet in Uppsala on September 15th and 16th, 2015.

On the first day the recruitment of patients to both the statin-induced myopathy (SIM) and the angiotensin-converting enzyme inhibitor (ACEi)- induced angioedema arms of the study was discussed. Recruitment of both discovery cohorts has been completed and the focus is now on final recruitment of patients for the replication cohorts.

On day 2 the focus was on sequencing harmonisation studies carried out in preparation for sequencing DNA samples in the main studies. Studies at the Universities of Dundee, Liverpool and Uppsala showed very consistent data between all three centres. This means that everything is now ready for sequencing the samples in the principal PREDICTION-ADR studies which is beginning at the time of writing.

Alun McCarthy of Adorial Ltd (formerly PGXIS) described a successful implementation of the Adorial's unique Taxonomy 3 software to discover drug targets for the treatment of rheumatoid arthritis.

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Welcome to the Newsletter of PREDICTION-ADR

Personalisation of treatment in cardiovascular disease through next generation sequencing in Adverse Drug Reactions (PREDICTION-ADR)

Prediction-ADR aims to discover the genetic factors predisposing patients to adverse drug reactions (ADRs) from cardiovascular disease drugs. This will be achieved by assembling a consented blood bank and DNA for a population of around 500 cases of ACEi induced angioedema and around 500 cases of statin induced myopathy. Cases are defined using standardised phenotypic criteria.

PREDICTION-ADR has six partners in four countries:

- University of Dundee, UK
- Universiteit Utrecht, the Netherlands
- University of Liverpool, UK
- Uppsala Universitet, Sweden
- Adorial Limited (formerly Pharmacogenomic Innovative Solutions Limited), UK
- Asper Biotech AS, Estonia

http://www.prediction-adr.eu
Start date: 01 September 2013
End date: 31 August 2016

This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement no 602108

... The taxonomy 3 method will be used in a similar way to analyse PREDICTION-ADR data. This will enable the identification of interactions between genes and also rare gene variants that could be important in telling which patients are likely to suffer adverse drug reactions. Preparations are now underway at Adorial to receive the PREDICTION-ADR data.

Colin Palmer from the University of Dundee then outlined plans to investigate the biological functions of the genes identified.

Carolina Rediviva Library, Uppsala

ASPER Biotech now marketing test for statin ADR

The scientific team at ASPER Biotech in Estonia have recently implemented a validated genetic test which can help identify patients who are likely to suffer muscle problems (myopathy) after taking statins. The test is based on a particular variant of the gene SCLO1B1 which is known to predict statin-induced myopathy. It can also be helpful in determining the ideal dose of statin a patient should take. PREDICTION-ADR aims to build on this by improving the accuracy and predictive power of the test. The test is part of ASPERs new portfolio 'Asper Cardiogenetics'. Further information may be found at: www.asperbio.com/asper-cardiogenetics/statin-induced-myopathy

Call to physicians to be aware of the serious risks of continuing ACEi therapy after angioedema

PREDICTION-ADR researchers working at Universiteit Utrecht in the Netherlands have recently published the findings of a large population-based study of patients who continue to use ACEi after suffering a potentially life-threatening angioedema.

Almost half of all patients included in the study continued with ACEi treatment after angioedema, despite guidelines which recommend discontinuing the treatment. Continuing treatment was found to be associated with an increased risk of a subsequent angioedema; the probability of a further occurrence was up to 2.8 times greater than patients who discontinued treatment.

The researchers call on physicians to be aware of this risk, particularly as the second angioedema is often more severe than the first.

Published: Mahmoudpour *et al, International Journal of Cardiology*, (2015), 201:644-645

Using prescription patterns to identify ADRs

PREDICTION-ADR researchers at Universiteit Utrecht have shown that a switch from ACEi to ARB treatment is a useful way to identify patients with ACEi induced ADRs in healthcare databases. ADRs are often poorly registered in these databases therefore this method can now be used to increase the efficiency of epidemiological studies which rely on data from this source.

Published: Mahmoudpour et al, *International Journal of Clinical Pharmacy*, (2015) [Epub ahead of print]

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Gene variant associated with an ACEi-induced ADR identified

Coughing is a common side effect of treatment with ACEi. A gene variant which is associated with ACEi-induced coughing has been identified through a collaboration of PREDICTION-ADR researchers from the Universities of Dundee and Utrecht with researchers led by Prof Dan Roden at Vanderbilt University (USA). Published: Mosley et al, *The Pharmacogenetics Journal* (2015), [Epub ahead of print]

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Danish researchers to participate in PREDICTION-ADR study

Researchers in Denmark, led by Dr Eva Rye Rasmussen at the University Hospital of Copenhagen, will contribute ACEi angioedema samples to the PREDICTION-ADR project. This will enable a wider population to be reached and will allow Danish patients to participate in the study.

PREDICTION ADR

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