GENETICS

Polyglutamine repeats or cancer?

It has previously been shown that patients with schizophrenia have a reduced risk of cancer than other individuals. This observation has been connected to the fact that tumour-suppressor genes, such as *TP53* and *APC*, are upregulated. A team in Sweden, led by Jianguang Ji, have now asked if patients with Huntington's disease might also have protection from cancer.

Ji explains the rationale behind the research: "we initially performed a literature search and found evidence that a mutation in the *HTT* gene in Huntington's disease is associated with modified expression of *TP53*, which suggested a possible link between Huntington's disease and cancer. To investigate this potential link, we first attempted to determine whether the risk of cancer was altered in patients using Swedish National databases." In their preliminary assessment, they observed that patients with Huntington's disease had a decreased risk of cancer (standardized incidence ratio 0.47). But, why were these patients

seemingly 'protected' from cancer?

The researchers hypothesized that the cancer risk reduction was associated with polyglutamine (polyQ) expansion.

To test their hypothesis, "we further examined the risk of cancer in patients with other polyQ diseases (spinobulbar muscular atrophy and hereditary ataxia)," outlines Ji. Using the data from the Swedish databases they showed that "the overall incidence of cancer ... [was] decreased in patients with various polyQ diseases, which suggests that a common mechanism protects patients with these diseases against the development of cancer," says Ji. That common mechanism is likely to be polyQ tract expansion and Ji and colleagues plan to follow up on this hypothesis in future work.

Rebecca Kirk

Original article Ji, J. *et al.* Cancer incidence in patients with polyglutamine diseases: a population-based study in Sweden. *Lancet Oncol.* doi:10.1016/S1470-2045(12)70132-8