Cancer drug trial success

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The successful results of a University of Liverpool led drug trial aimed at developing new therapeutic approaches to cancer have been presented at two American medical conferences.

The drug trial (APR-246) aimed to test the effects of a novel compound on a specific protein, p53, found to be mutated in over 50% of all cancers.

The p53 gene is from a class of genes called tumour suppressors which are mutated in all cases of one form of ovarian cancer (high grade serous), but have proved difficult to target in the past.

Tumour suppressor genes are protective genes. Normally, they limit cell growth by monitoring how quickly cells divide into new cells, repairing damaged DNA, and controlling when a cell dies.

When a tumour suppressor gene is mutated, cells grow uncontrollably and may eventually form a mass called a tumour.

The most commonly mutated gene in people who have cancer and most p53 gene mutations are acquired, in some common global cancers such as liver or lung, but in most others there is no identifiable carcinogen.

The drug, working in combination with conventional (cytotoxic) chemotherapy agents, has also had promising results in all of 23 evaluable patients with only modest toxicity. Earlier studies showed restoration of the normal wild type conformation of the mutated protein.

The trial, which included participation from investigators in different centres all over Europe, was headed up by Dr John Green from the University's Institute of Translational Medicine who was the Co-ordinating Investigator. Tumour suppressor genes, including p53, have been studied by the Institute for many years.

Dr Green presented the findings of the APR-246 trial at the Targeted Anticancer Conference held in Washington DC in March 2016 and the data was presented again at the American Society for Clinical Oncology meeting in Chicago attended by over 35,000 delegates.

Dr Green, said: "Part of this research has been the testing of a novel compound, APR 246, which can reverse the mutation of p53 and restore it to its original form.

"Understanding the functions of mutant p53 will help in the development of new therapeutic approaches that may be useful in a broad range of cancer types."

The trial will now be expanded to 400 patients across 36 centres in Europe and the USA with a view to a licence for this novel agent.

Provided by University of Liverpool