Woman's genes give clue for unique liver cancer treatment

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A 47-year-old American woman with intrahepatic cholangiocarcinoma (ICC) is the first person with her condition to receive a uniquely personalised treatment based on her genetic profile.

"Using the information from the genetic makeup of our patient's cancer, we were able to formulate a personalised treatment," says Dr Arturo Loaiza-Bonilla of the University of Pennsylvania, lead author of the case report published in *ecancermedicalscience*.

This is the first reported case of the use of personalised genomic information for the successful management of ICC, as well as the first use of combined dabrafenib and trametinib therapies to treat this condition.

The woman was diagnosed with intrahepatic cholangiocarcinoma, a cancer of the internal ducts of the liver. This cancer has a very low survival rate and limited treatment options.

After consulting a multidisciplinary tumour board of clinicians and researchers, a team of doctors from the University of Pennsylvania ordered next-generation sequencing of the tumour. They hoped to find clues to potential treatments in the patient's genome.

They discovered that her tumour had a unique genetic change called a BRAF mutation, which causes abnormal cell growth. BRAF mutations are more commonly associated with melanoma.

Finding this mutation was a stroke of good fortune, according to Dr Jennifer Morrissette, an author of the case report. "This BRAF mutation has a well-described targeted therapeutic agent."

The team prescribed a treatment of combined dabrafenib and trametinib, usually used in melanoma, which are specially targeted to this type of BRAF mutation.

"This led to significant, fast tumour shrinkage to such a degree that most of the cancer was no longer evident, along with symptom improvement in a durable fashion," Dr Loaiza-Bonilla explains.

This experimental treatment produced what Loaiza-Bonilla and co-authors are calling an "exceptional response."

Many of the patient's symptoms have disappeared, and she is tolerating the treatment well.

Provided by ecancermedicalscience