Atezolizumab translates into survival benefit for bladder cancer patients with ctDNA positivity

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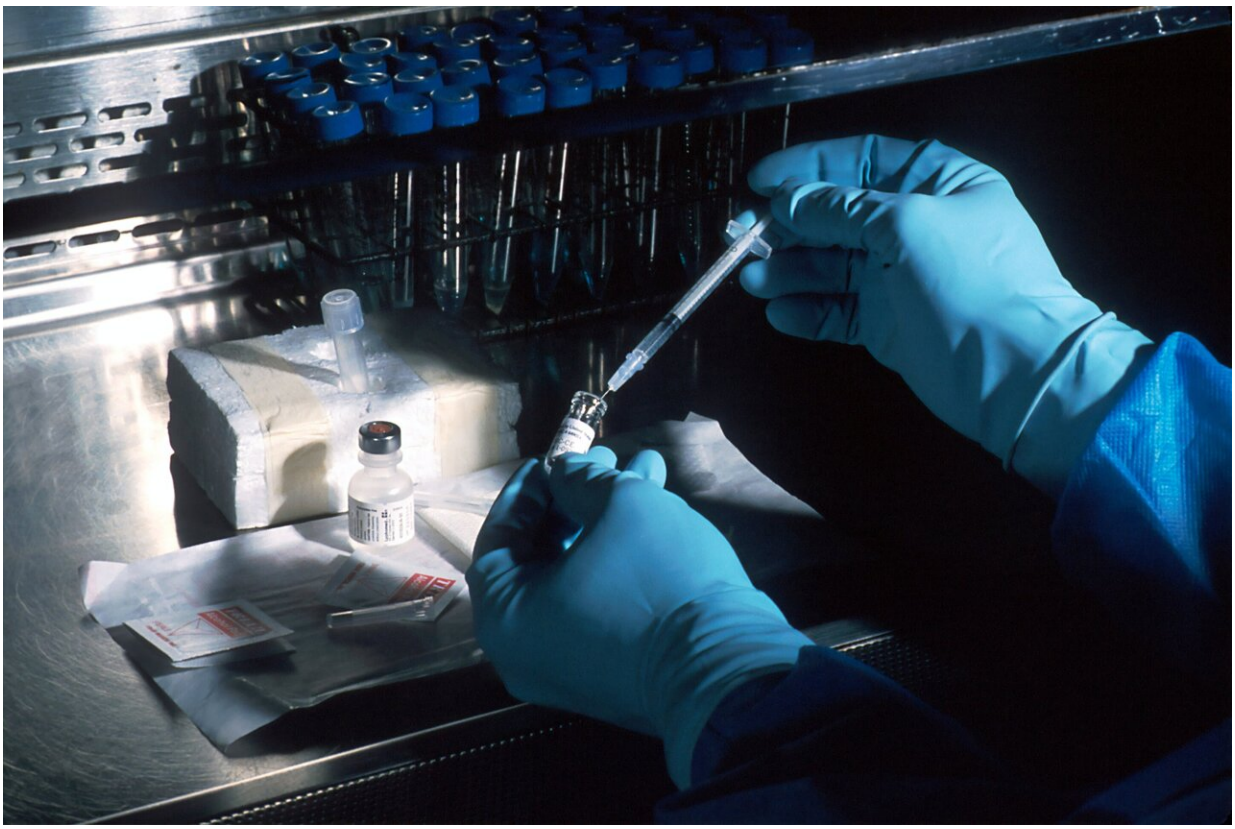

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Researchers who treated a group of post-surgery bladder cancer patients with the immunotherapy drug atezolizumab have found that patients

whose blood contained circulating tumor DNA (ctDNA), responded very well to the treatment.

The study is presented today at the European Association of Urology annual congress (EAU22), in Amsterdam.

The research was part of a larger Phase III trial, IMvigor010, which looked at whether giving atezolizumab for up to one year to patients following bladder removal surgery improved the patients' survival prospects, compared to a group that received no further treatment after surgery but placed in an observation group. Part of that trial involved patients' levels of ctDNA being measured after surgery, and during further treatment or observation.

Although the trial found no significant difference in overall survival between the two groups in the intention-to-treat population, researchers noticed that a subgroup of patients who were ctDNA positive showed a marked improvement when they were given atezolizumab. These benefits included significantly higher disease-free survival, and significantly higher overall survival, than the observation group. This effect wasn't seen in ctDNA negative patients.

In addition, the researchers also found that patients that were ctDNA positive, but subsequently changed to became ctDNA negative after treatment with atezolizumab, ultimately had a particularly good prognosis.

ctDNA comprises fragments of DNA shed from cancerous cells and tumors that are found in the bloodstream. Sometimes known as a 'liquid biopsy', it has emerged as a promising, minimally invasive biomarker in clinical oncology, but isn't yet widely used as part of a standard detection and treatment tool for any cancers. It involves tumor specific gene sequencing for every patient, so is time-consuming and, at present,

relatively expensive.

Professor Gschwend, Chairman of the Department of Urology at the Technical University of Munich, said: "We already knew that patients who are ctDNA positive have a poor prognosis compared to those who are ctDNA negative. But this is the first time we've been able to show that with immunotherapy we can actually change the course of the disease depending on a patient's ctDNA status. "

He continued: "If we can prove that consequent drug activity is linked to ctDNA status, and that high-risk patients will benefit, that could in time change the standard treatment pathway—and ultimately bring down the average cost of ctDNA analysis. "

Professor Morgan Roupret, Chairman of the European Section of Onco-Urology of the European Association of Urology, said: "The field of personalized medicine, using not only clinical but molecular indicators, is just around the corner. So, analyzing ctDNA is very interesting. It is relatively easy to do with new technology and it means we can select a subset of patients who are likely to respond."

The next step will be the upcoming IMvigor 011 study, which has been redesigned as a consequence of these results. With 500 participants, the trial will further evaluate the use of ctDNA sampling, and will compare atezolizumab against placebo in only ctDNA-positive patients, post-surgery.

Professor Roupret added: "Unlike in prostate cancer, where we can measure PSA as a marker of the cancer, until now we haven't had anything we can use for bladder cancer. But these robust findings show that that ctDNA has great potential as a sophisticated tool to monitor patients and choose their most effective treatment. The progress of the IMvigor 011 study will be watched closely by specialists for a greater

assessment of the use of atezolizumab in bladder cancer patients."

Provided by European Association of Urology