Website address:
https://www.gesundheitsindustrie-bw.de/en/article/press-release/weniger-nebenwirkungen-dank-personalisierter-medizin

Fewer side effects thanks to personalised medicine

Patients have 30 percent fewer serious side effects when medication doses are tailored to their genetic profile. This is what an international research consortium has found out, including the Dr. Margarete Fischer-Bosch Institute of Clinical Pharmacology at the Bosch Health Campus. With an individual DNA medication pass, as used in the study, treatments can be made more effective and safer in the future.

The "One-size-fits-all" approach is outdated as a general principle in prescribing medicine. Since, due to differences in their genetic information, patients can respond differently to medication. For example, some people process medicines very slowly and therefore need a lower dose not to experience any side effects. Personalised drug therapies are therefore recommended.

Researchers have developed a "DNA medication pass" to make this possible, which associates a patient's genetic profile to drugs. The Lancet Study found that patients who actively used the medication pass and had their dose adjusted according to their DNA, had 30 percent fewer serious side effects than those who were given a standard dose.

7000 participants from seven countries

Around 7000 patients from seven European countries participated in the study, which took into account different medical fields such as oncology, cardiology, psychiatry and general medicine. The researchers examined twelve specific genes for which a connection to drugs was already known. It showed that 50 types of genetic variants influence the effect of 39 selected drugs. After the prescription of the drugs, the patients were followed up in order to record any side effects, such as muscle pain, changes in blood count, diarrhoea or infections. Those who received a dose adapted to their specific genetic information showed fewer side effects. The use of a DNA medication pass was also positively received by the patients, since they felt that they were actively involved in their personalised treatment.

DNA medication pass as new standard?

"For the first time we have proven that a 'tailored' strategy works at a large scale within clinical practice. There is now enough evidence for us to proceed with implementation," says Henk-Jan Guchelaar from Leiden University Medical Center. Matthias Schwab, head of the Institute of Clinical Pharmacology adds: "The study shows that genetic testing to prevent side effects is very well received by doctors, the pharmacists involved and, above all, by the patients."

With the pass, doctors will be able to offer customised treatment to their patients in the future, i.e. a "dose" of medication tailored to their needs. The researchers assume that it will be easier for health insurance companies to cover the costs of personalised drug therapies on the basis of the study results. "In this way, we can make treatment more effective and safer for each patient", says Guchelaar.

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Further information

- Bosch Health Campus GmbH