HIRSLANDEN PRECISE

PRECISE PHARMA

REDEFINING HEALTH

PRECISE PHARMA

No adequate therapeutic benefit can be demonstrated in up to half of all patients who are treated with drug groups such as beta blockers, antidepressants or fat-lowering drugs. What is worse: in many cases, the therapy is even stopped because there is a drug intolerance. Intolerances can manifest themselves in different ways: From a prolonged or non-existent effect to interactions with other drugs and life-threatening complications.

Causes of a drug intolerance can be age, eating habits, health, environmental influences and concomitant therapeutic measures. In addition, human genetic differences play an important role in the occurrence of adverse drug reactions. “Precise Pharma” intends to use genetic analyses to adapt drug therapy to each individual patient in terms of type and dose. The goal is more desirable and fewer undesirable effects from drugs. This is intended to make drug therapy safer and more effective.

The individual tolerance of a prescribed drug is a daily challenge for the doctor. A distinction is made between three scenarios:

- A drug induces a positive course of the disease.
- Therapy does not work for the patient.
- There are adverse drug reactions.

Pharmacogenetics uses information about a person’s genetic constitution, or genetic make-up, to choose the drugs and medicine doses that will be most effective for that person. This new area combines the science of how drugs work with the science of human genomes.

PERFORMANCE AREA

WHICH GENES ARE BEING EXAMINED?

In individualised pharmacotherapy, in particular, knowledge of a patient’s genetic predisposition (disposition) is of far-reaching clinical consequence, because it enables drugs to be specifically selected and dosed.

Base genes

The following genes have been scientifically well researched and are examined on the basis of the clinical question:

ABCB1, ADH1B, ADRB1, ADRB2, ADRB3, ALDH2, BCHE, CCR5, COMT, CYP2C9, CYP3A4, CYP2A6, CYP1A2, CYP2C19, CYP2D6, CYP3A5, DPD, G6PD, THFR, NAT2, OPRM1, PON1, SLC19A1, SLCO1B1, SOD2, TPMT, UGT1A1, VKORC1, F2, F5, PAI1

TARGET GROUP

WHO IS PHARMACOGENETICS AIMED AT?

A genetic analysis can be useful when taking the following drugs, among others:

- Patients struggling with adverse drug side effects.
- Patients whose drugs are not working.
- Patients taking or considering any of the following medications:
    - Anti-platelet drugs
    - Beta blockers
    - ACE inhibitors
    - Blood thinners
    - Pain relievers (analgesics/anaesthetics)
    - Antidiabetic drugs
    - Diuretics
    - Stomach acid blockers
    - Oral contraceptives (birth control pills)
- Patients who suffer from one of the following diseases and are being treated with medication:
    - Acid reflux
    - Mental illness
    - Arthritis
    - Cancer
    - Asthma/COPD
    - Thyroid disease
    - Organ transplant
    - Diabetes
    - Osteoporosis
    - Blood pressure (high)
    - Cholesterol (high)
    - Migraines
    - Stomach ulcer
    - Depression
    - Prostate (enlarged)
    - Myocardial infarction (MI)
- Pregnant women who have had problems with medication in the past.

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PROCEDURE

HOW DOES A GENETIC ANALYSIS WORK?

STEP 01

Registration

Done by the family doctor or a specialist.

STEP 02

Preliminary discussion & approval

Before the test, a preliminary genetic discussion takes place to determine the indication and the genes to be examined. Written consent from the patient is mandatory.

Genomic board

If necessary, the cases are discussed by specialists from a variety of disciplines and recommendations are made.

STEP 03

Sampling

A blood sample is taken by qualified personnel and sent to the laboratory. Depending on the situation, buccal swabs can also be used.

STEP 04

Laboratory analysis

The samples are analysed in the certified laboratory with specialised genetic methods and visualised on the computer with the help of bioinformatic programmes. The analysis time is between 1 and 4 weeks, depending on the genetic diagnosis.

STEP 05

Evaluation & reporting

The commissioning doctor receives the results in the form of a written report. The patients receive a copy of the report after the findings have been discussed.

STEP 06

Genetic advice & individual treatment recommendations

The expert in genetic medicine explains the analysis results in an interview so that there are no misinterpretations. On the basis of the genetic results, further care is provided by the family doctor or specialist. Depending on the situation, further individual diagnostic and/or therapeutic measures are suggested.

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BENEFITS

WHY IS GENETIC TESTING WORTHWHILE?

Until recently, drugs were developed with the idea that any drug would have largely the same effect on everyone. Genome research has fundamentally changed this one-size-fits-all approach. Because, depending on the genetic make-up, some drugs can be more or less effective in a patient. Similarly, some drugs may cause more or fewer side effects in one patient than another.

Pharmacogenetics offers patients the following benefits:

- The doctor can prescribe the most suitable medication directly.
- The dosage can be tailored to the patient in advance.
- Any side effects are recognised in advance thanks to genetic information. Another drug can be selected accordingly.
- This spares the patient a laborious process of trial and error.
- Pharmacogenetics saves time and money.

Comprehensive support from a specialist

Simple sampling by taking blood or a buccal swab

Faster test results

High accuracy and security

PRICE & CONDITIONS

The costs of a genetic examination depend to a large extent on the complexity of the analysis and range from a few hundred to several thousand Swiss francs.

Genetic analyses are covered by compulsory health insurance if they are classified as mandatory. However, to do this, they must be used to diagnose or treat an illness and its consequences (Article 25 paragraph 1 KVG). Specifically, this means that there is an acceptable probability that they will result in at least one of the following consequences:

- Decision on the necessity and type of medical treatment
- Directional change in the medical treatment used so far
- Directional change in the necessary examinations (e.g. for the timely prevention, detection or treatment of typically expected complications)
- No further examinations of typically expected symptoms, secondary diseases or complaints

Analyses in which it is already clear at the time of the order that the result does not have any of the consequences mentioned are excluded from the assumption of costs and must be borne by the people who want a genetic test. The genetic counselling, like any other medical service, is billed via Tarmed. The tariff for the position “genetic counselling” corresponds to the basic tariff for a general medical consultation.

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