

23 April 2020

CANCER DOESN'T TAKE A BREAK

COVID-19 affects everyone and makes cancer care even more difficult. In the midst of this health crisis, patients face additional stress with limited visits from family and friends, concerns about the hospital's involvement in the care of COVID-19 patients and simply the fear of contracting the virus. All kinds of resources and help are now more than needed to support cancer patients. Healthcare professionals and oncology researchers are not taking a pause and are on the front lines of helping their patients. A Geneva-based foundation, Cansearch, is working to improve existing treatments for childhood cancer through genetics. We met them before the outbreak and wanted to share their work and their fight with you.

20% is still too much: join the fight against childhood cancers

Every year, 300,000 children are diagnosed with cancer. Existing treatments are effective for 80% of them, but cancers remain the leading cause of death from diseases.

A survival rate of 80% is high compared to adults. However, approximately 20% of children still die because of the toxic effects of cancers' treatments and relapses. Even if the child survives, it is often at the cost of burdensome treatments. Side effects can also persist into adulthood, sometimes resulting in lifelong/irreversible disabilities. Current treatments for adults (radiotherapy, chemotherapy, cell therapy) are also effective in children, but the dosages are often inadequate.

In Switzerland, there are 250 new cases every year. In children (under 15 years of age), there are 60 types of existing cancers, most of which are considered rare diseases. Leukemia, cerebral tumors and lymphoma are among the most common cancers. Companies are not willing to invest in such a niche market, and as a result, less than 2% of funds dedicated to cancer research go to pediatric cancers. It is more than necessary today to improve the effectiveness and safety of available treatments.

CANSEARCH, a Geneva-based foundation, aims to increase survival rates in pediatric cancers by minimizing drug toxicity and relapses. Since 2011, CANSEARCH has been working on adapting existing treatments dosage to the child's genetic profile.

How?

At CANSEARCH Research Laboratory with the support of the Geneva University Hospital (HUG) and the Faculty of Medicine of the Geneva University, researchers and clinicians study the role of the genome in drug response (pharmacogenomics). They implement their research to propose to children personalized treatment plans.

CANSEARCH Research Laboratory has been running a study for eight years to demonstrate the importance to adapt the dose of the chemotherapeutic agent, Busulfan to the genetic profile of the children receiving a hematopoietic stem cell transplantation (HSCT). The HSCT is the standard of care to treat certain types of cancer like leukemia.

Why does the same drug work different according to the children genetic profile?

Because of the unique metabolism of each one of us. In this study, several genes related to the metabolization of Busulfan have been identified.

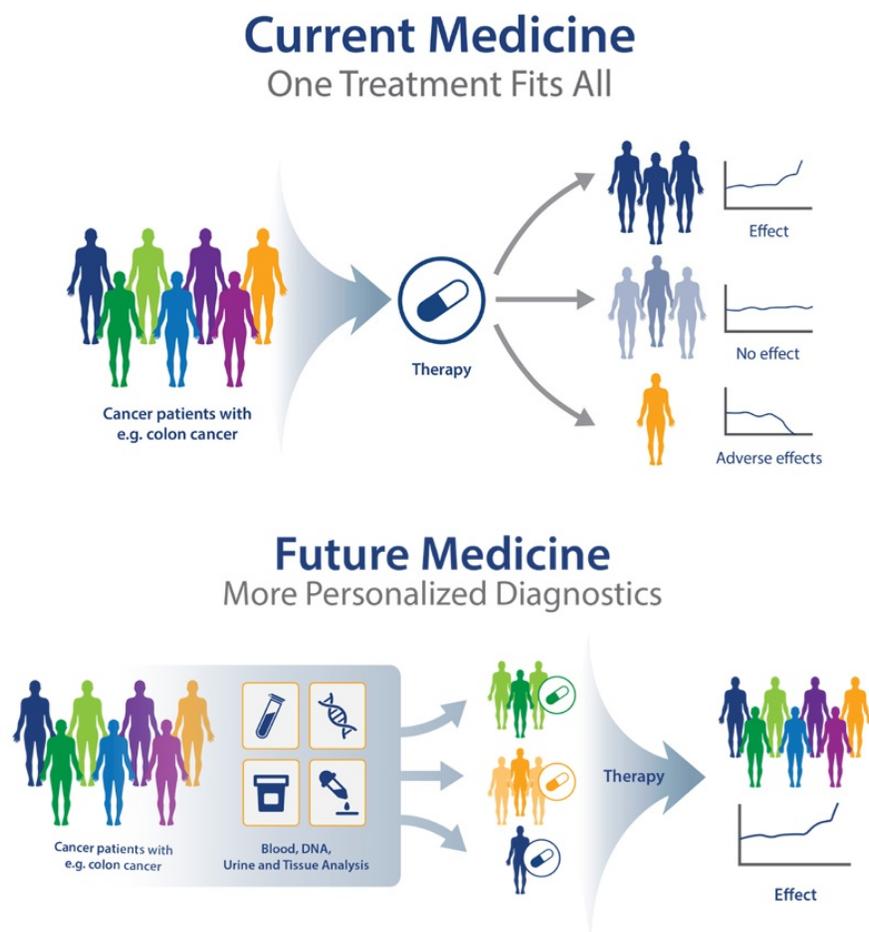
The information carried by the gene is converted into a functional protein, in this case, into enzymes. The enzyme is responsible for the metabolization (the breakdown) of the drug, and therefore, its elimination from the body. The enzymes produced can vary significantly among patients. With less quantity of enzymes, the drug is metabolized too slowly staying in the blood longer and can become toxic for the children. With a high level of enzymes, the drug is metabolized too quickly and the concentration of the drug in the blood may not be reached (no efficacy) leading to more relapse.

CANSEARCH Research Laboratory was able to demonstrate that genetic differences (polymorphisms) in certain genes that control the production of the enzymes involved in the metabolism of Busulfan are responsible for the efficacy and toxicity of this agent.

Genes appeared to have an influence on the treatment response and on the side effects (veno-occlusive disease, graft-versus-host disease, hemorrhagic cystitis, sinusoidal obstruction syndrome).

The differences in these genes among individuals are compared, with the aim of developing a diagnostic tool that recognizes them. The diagnostic tool will allow to define the right dose of drug and finally save more lives.

We invite you to discover [the foundation's website](#) where you can find all the projects and the events they organize.



DISCLAIMER

About AtonRâ Partners: AtonRâ Partners is an asset management company, founded in 2004 with head office in Geneva, incorporated under Swiss law, duly approved by the Swiss Financial Market Supervisory Authority (FINMA) under the Swiss Collective Investment Schemes Act. AtonRâ Partners is a conviction-driven asset manager combining industrial and scientific research with financial analysis. AtonRâ Partners focuses on long-term trends powerful enough to be turned into thematic equity portfolios.

This report has been produced by the organizational unit responsible for investment research (Research unit) of AtonRâ Partners and sent to you by the company sales representatives. As an internationally active company, AtonRâ Partners SA may be subject to a number of provisions in drawing up and distributing its investment research documents. These regulations include the Directives on the Independence of Financial Research issued by the Swiss Bankers Association. Although AtonRâ Partners SA believes that the information provided in this document is based on reliable sources, it cannot assume responsibility for the quality, correctness, timeliness or completeness of the information contained in this report. The information contained in these publications is exclusively intended for a client base consisting of professionals or qualified investors. It is sent to you by way of information and cannot be divulged to a third party without the prior consent of AtonRâ Partners. While all reasonable effort has been made to ensure that the information contained is not untrue or misleading at the time of publication, no representation is made as to its accuracy or completeness and it should not be relied upon as such. Past performance is not indicative or a guarantee of future results. Investment losses may occur, and investors could lose some or all of their investment. Any indices cited herein are provided only as examples of general market performance and no index is directly comparable to the past or future performance of the Certificate. It should not be assumed that the Certificate will invest in any specific securities that comprise any index, nor should it be understood to mean that there is a correlation between the Certificate's returns and any index returns. Any material provided to you is intended only for discussion purposes and is not intended as an offer or solicitation with respect to the purchase or sale of any security and should not be relied upon by you in evaluating the merits of investing in any securities. The products described in this document may not be directly or indirectly offered or sold in the United States of America or by U.S. Persons.