Drug rediscovery protocol allows doctors to prescribe anticancer drugs outside of their approved use

October 1 2019, by Bob Yirka

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A large team of researchers affiliated with institutions across the Netherlands has begun what they call a Drug Rediscovery protocol—a

clinical trial of sorts that involves giving cancer patients anticancer drugs that are not typically used for their type of cancer. In their paper published in the journal *Nature*, the group describes their protocol and its purpose.

Doctors who treat cancer patients know that sometimes drugs developed for treating one type of cancer can effectively treat other types of cancer—but a system for identifying which drugs those might be has not been developed. In this new effort, the doctors and researchers on the project are seeking to remedy that problem. They have set up a protocol whereby cancer patients who are out of options are given a chance to try other drugs not approved for their type of cancer. They report that initial results are promising—up to one-third of patients given alternative remedies have seen some improvement from them—and two are in remission.

Such a protocol is possible because of the way modern cancer drugs are developed—most are precision anti-cancer therapies directed against a specific DNA mutation in a tumor. Thus, to choose an alternative drug, a doctor working under the Drug Rediscovery protocol would look up a drug that has been approved for treating a similar type of mutation. As an example, many drugs have been developed and approved for treating breast cancer that have been designed to target mutations that result in overproduction of HER2. If a patient in the program has a cancer type that also results in overproduction of HER2, it might be wise to allow them to try it as well.

The researchers in the program note that very little information is available for doctors trying to treat dying cancer patients with drugs outside of approved lists. They believe that a protocol such as theirs will generate results that can be used by other doctors. If a patient experiences good results with an alternative drug, it goes into the database. If none of the patients given a certain drug see any

improvement, then the team can cross it off a list of possible therapies for a certain kind of cancer.

The researchers report that the protocol now has over 1000 patients, and they hope to expand it by connecting with similar programs taking place in other countries. They note that as more data goes into the database, the better the database will become at providing reasonable alternatives for cancer doctors.

More information: D. L. van der Velden et al. The Drug Rediscovery protocol facilitates the expanded use of existing anticancer drugs, *Nature* (2019). DOI: 10.1038/s41586-019-1600-x

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