Cancer’s evolution hinders new drug treatments

While immunotherapies provide a better chance for a long-term and durable response, [Retired Major League Baseball administrator Bill] Murray’s story highlights that even this new class of cancer treatments is susceptible to drug resistance, a problem that has plagued the field since the first chemotherapies were used in the United States in the 1940s.

Just as bacteria evolve resistance to antibiotics, cancer cells evolve ways to evade even the best weapons in medicine’s arsenal. Tumor cells employ numerous tactics—most of which remain unknown—to escape being killed by chemotherapeutic drugs, cytotoxic agents that indiscriminately kill both cancerous and noncancerous cells in the process of dividing.

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“I’ve been saying this for 15 years: [beating cancer] takes time, and we need more drugs,” says Charles Sawyers of New York City’s Memorial Sloan Kettering Cancer Center, where he chairs the Human Oncology and Pathogenesis Program.

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Of course, it’s early days for understanding cancer’s evasion of these types of treatments. “The mechanisms of resistance for immunotherapy are literally just being described now,” says Jason Luke, a medical oncologist who conducts melanoma immunotherapy trials at the University of Chicago. For now, researchers continue to monitor the situation.

The GLP aggregated and excerpted this blog/article to reflect the diversity of news, opinion, and analysis. Read full, original post: How Cancers Evolve Drug Resistance

For more background on the Genetic Literacy Project, read GLP on Wikipedia