Dr. Howard Bruckner, Chief Science Officer of the MZB Foundation for Cancer Research Publishes in PLOS ONE

A group of 205 patients expected to live less than 10 months have 2-3x greater survival with new treatments. Blood tests predict survival.

NEW YORK , NY, UNITES STATES, November 2, 2022 /EINPresswire.com/ -- 'Actionable Tests and Treatments for Patients with Gastrointestinal Cancers and Historically Short Median Survival Times'

> For those with unmet needs, doing something different pays off"
>
> *Dr. Howard Bruckner*

New methods described in PLOS ONE produce the first treatments applicable to 400,000 patients with unmet survival and safety needs due to advanced gastrointestinal cancers each year. Treatments predictably improve survival 2-3-fold and add years of survival for young, old, and risk-averse patients with or without resistant tumors.

Lowest tested, 1/3 – 1/4 of the standard dosages with novel recombination of the drugs reverses drug resistance. Drugs can be re-used 2-3 times and improve re-challenge in sequential new regimens. Bruckner earlier found that some drugs are more effective when combined at low concentrations compared to the same drugs combined at high concentrations.

Predictive blood tests (PBTs), one-time, routine complete blood counts, and comprehensive metabolic profile chemistries identify the 70-80% of patients that benefit from treatment and predict the length of survival. PBTs identify the majority or nearly half of patients who survive over two years – their historical survivals are less than one year and < 10% at two years. This can expand eligibility and avoid current under and no-treatment for difficult patients.
Low dosages reduce clinically important side effects by 90% and recondition the immune system. This combination of benefits creates developmental opportunities for immunotherapy; genomic, targeted therapy; and reevaluation of new and old drugs that would otherwise be too toxic or fail as single agents.

The evidence includes six novel or rarely achieved milestone criteria of efficacy.

1. Consistent, reproducible survival with 300+ prior and 200 new patients.

2. Substantial survival advantage that exceeds historical 12 and 24-month survival rates.
3. Broad efficacy for the most difficult unmet needs against resistant cancers.
4. Benefit for real-world patients advised against further treatment.
5. Historical comparisons include ten validated blood tests.
6. Individual elements of the methods are validated as leading-edge clinical developments.

Similar benefit for patients with advanced stomach, small bowel, and gynecological cancers, is reviewed in Anticancer Research, Bruckner and others 2016 and 2018. It is also observed in the development of treatment for urologic and breast cancers. Bruckner and others described gastric cancer patients' blood tests in JAMA 1985.

Bruckner's laboratory discoveries, applied with an algorithm, produce novel initial recombination of four and sequentially added (not replaced) drugs. Six – 12 drug pairs and 3-4 drugs simultaneously increase changes to overcome resistance to each drug in the regimen, in contrast to the standard one or rarely used two drugs.

Evidence supports future randomized trials; emphasis on personalized survival; low dosage for safety, eligibility, and effectiveness; and new applications for re-challenge with 3-4 drugs to reverse resistance applicable to other tumors and drugs. Peripheral blood tests identify new targets for personalized treatment. The algorithm selects platforms to expand the MZB Foundation for Cancer Research's priorities for drug development, safety, and drug interactions that have contributed to five widely used treatments.

For more information, contact Drs. Howard Bruckner, Robert De Jager, and Fred Bassali and visit https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0276492.

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