

Fascinating histories and curiosities in gastroenterology

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Podcast Episode

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A gastroenterologist discusses fascinating historical discoveries in medicine, including the development of warfarin from cattle-poisoning fermented clover, the first clinical trial for scurvy treatment with citrus fruits, and the recognition of reverse causation bias in acute pancreatitis fluid resuscitation practices.

KEY POINTS

- The guest describes how warfarin originated from research into a 1920s epidemic of bleeding cattle fed fermented sweet clover, leading biochemist Carl Link to isolate dicoumarol after seven years of work, eventually producing warfarin as a rat poison that was approved for human use in 1954 after a failed suicide attempt demonstrated its safety with vitamin K treatment.
- James Lind conducted what is recognized as the first clinical trial in history in the 18th century by dividing 12 scurvy-affected sailors into six pairs, each receiving different treatments, demonstrating in six days that citrus fruits (two oranges and one lemon daily) cured the disease.
- The guest argues that 1990s recommendations for aggressive fluid resuscitation in acute pancreatitis were based on reverse causation bias, as his 2014 research showed that elevated hematocrit in necrotizing pancreatitis is a consequence of capillary leak syndrome causing fluid sequestration, not a cause of necrosis requiring aggressive hydration.
- The speakers discuss challenges in recognizing reverse causation bias in published literature, noting that prospective randomized trials help establish causality and that the Bradford Hill criteria can be applied to evaluate causal claims, as demonstrated in a 2021 paper questioning the causal link between COVID-19 and acute pancreatitis.
- The guest expresses concern that artificial intelligence is being used to write scientific articles, meta-analyses, and grant applications without disclosure, representing a problematic shift in how intellectual tasks are performed in academic research.

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