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Podcast Title:

The Mystery that led to warfarin

Department: Physiology

Category: (Select relevant category)

Public awareness

TRANSCRIPT

Hello everyone. I am Dr. Deepika, Associate Professor, Department of Physiology. My topic for the podcast is “The mystery that led to Warfarin”

- ✦ The discovery of the world’s most famous anticoagulant used for the treatment of life-threatening blood clots and atrial fibrillation – all began with a set of mysterious deaths of the cattle and herds due to hemorrhage in the Northern US and Canada in the early 1920s.
- ✦ The mystery evoked the interest of a Canadian veterinarian, Frank Schofield, who investigated that all of the affected cattle had eaten mouldy silage made from a sweet clover plant and was labelled as “Sweet clover disease”
- ✦ After 8 years, Dr L M Roderick demonstrated that the affected animals lacked the blood clotting factor prothombin.
- ✦ There are 13 clotting factors in our body, which plays a crucial role in the process of stoppage of bleeding. Similarly, anticlotting system helps in preventing the formation of clot. A balance between these two processes is essential to maintain the normal fluid state of blood. In sweet clover disease, the clotting factor prothrombin was deficient.
- ✦ Dr Karl Link and his student Harold Campbell isolated the substance dicoumarol which was formed when coumarin – a molecule in many plants, interacts with certain fungi.
- ✦ At the time, Dr Link’s work was supported by the Wisconsin Alumni Research Foundation (WARF), hence the molecule was named as Warfarin.
- ✦ It was first approved as a rat poison.
- ✦ Safety concerns were the main issue behind its lack of use in humans which were later eased, following the attempted suicide of man who overdosed himself on warfarin rat poison, but was successfully saved with doses of vitamin K
- ✦ The drug, coumadin was also used to help treat US President Dwight Eisenhower following a heart attack.
- ✦ Now, many pharma companies synthesize this drug under various trade names, but warfarin’s discovery still stands as both one of the greatest medical breakthroughs of the 20th century and one of its great detective stories.
- ✦ Success is no accident, its hard work, perseverance, learning, studying, sacrifice and most of all love of what you are doing
- ✦ Keep observing and detecting

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