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Review Article

Riveting Stories in Medicine: A Relic from the Past or a Hope for the Future?

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Abstract:

Since the dawn of time, we have searched for ways to make life easier for us. The modern age has given us some amazing technological advances, what we would do without the internet, our iPhones or high-speed travel? For many people, surviving life without these things sounds rough. However, if you have diseases, no doubt you're also a big fan of particular 20th-century discoveries Our aim is to show the new generations of doctors how the ancient suffered for their luxury.

Key words: insulin; anticoagulant; tums; penicillin and digoxin

Introduction

Since the dawn of time, we have searched for ways to make life easier for us. The modern age has given us some amazing technological advances, what we would do without the internet, our iPhones or high-speed travel? For many people, surviving life without these things sounds rough. However, if you have diabetes, no doubt you're also a big fan of particular 20th-century discovery [1]. The history of anticoagulants has perseverance and serendipity [2].

Viewpoints:

German researchers, Oskar Minkowski and Joseph von Mering, found that when the pancreas was removed from dogs in 1889, the animals developed symptoms of diabetes and died soon. They thought that the pancreas was the site where "pancreatic substances" (insulin) were produced. Later narrowed this search to the islets of Langerhans (a name for clusters of specialized cells in the pancreas). In 1910, Sir Edward Albert Sharpey-Shafer suggested only one chemical was missing from the pancreas in people with diabetes. He decided to call this chemical insulin, which comes for the Latin word insula, meaning "island." A young surgeon named Frederick Banting and his assistant Charles Best figured out how to remove insulin from a dog's pancreas in 1921. Colleagues said the stuff looked like "thick brown muck," but little did they know this would lead to life and hope for millions of people with diabetes. Banting and best kept another dog with severe diabetes alive for 70 days, the dog died only when there was no more extract, along with the help of colleagues J.B. Collip and John Macleod, they went a step further. A more refined and pure form of insulin was developed, this time from the pancreases of cattle and In January 1922, Leonard Thompson, a 14-year-old boy dying from diabetes in a Toronto hospital, became the first person to receive an injection of insulin. Within 24 hours, Leonard's dangerously high blood glucose levels dropped to near-normal levels. The news spread around the world like wildfire. In 1923, Banting and Macleod received the Nobel Prize in Medicine, which they shared with Best and Collip [1]. The anticoagulant effect of heparin was discovered by McLean in 1915, while he was searching for a procoagulant in dog liver. Link identified dicumarol from spoiled sweet clover hay in 1939 as the causal agent of the sweet clover disease, a hemorrhagic disorder in cattle. Hirudin extracts from the medicinal leech were first used for parenteral anticoagulation in the clinic in 1909, but their use was limited due to adverse effects and in achieving highly purified extracts [2].

In the 19th century, there were many remedies for an upset stomach. Some turned to papaya for its powerful enzymes. In 1887, Johnson & Johnson

developed Papoid Tablets, made from the extract of papaya, and guaranteed it would digest any kind of food. Also, Dr. Bonker's Celebrated Egyptian Oil, stomach sufferers were encouraged to take 10 to 20 drops every half hour in Molasses or on sugar, and at the same time apply externally, In 1928, medical experts understood that upset stomachs appeared to be caused by overactive acids. St. Louis pharmacist James Howe deduced that if acid was the problem, the solution would be to neutralize the acids, and one night in his basement he created an anti-acid, a mixture of sugar and calcium carbonate Which did the trick and settled Mrs. Howe's heartburn. Soon, it was doing the same for others' upset stomachs all across St. Louis. Just two years later, a manufacturing company was built, and Tums became a national hit [3] In 1954, during the Crimean War, Nightingale led 38 nurses to a British field hospital in Constantinople, where unsanitary conditions caused high mortality rates. By strict hygiene practices, she reduced death rates from 40%to 2%. Upon returning to England, she advised Queen Victoria on hospital reform and helped establish the Army Medical College. In 1860, she founded the Nightingale Training School for Nurses at St. Thomas'Hospital. Sister Joseph (Julia Dempsey) served in a dual capacity as hospital administrator and Dr. Will's surgical assistant [4]. Alexander Fleming was a Scottish physician-scientist who was recognised for discovering penicillin. The simple discovery earned Fleming – together with Howard Florey and Ernst Chain, who devised methods for the large-scale isolation and production of penicillin – the 1945 Nobel Prize in Physiology/Medicine. Fleming worked in a shipping office for four years. When his uncle John died, he willed equal shares of his estate to his siblings, nieces and nephews, and Fleming was able to use his share to pursue a medical education. In 1906, he graduated with distinction from St Mary's Medical School at London University. Fleming did not intend to begin a career in research. While serving as a private in the London Scottish Regiment of the Territorial Army, he became a recognised marks man. Wishing to keep Fleming in St Mary's to join its rifle club, the club's captain convinced him to pursue a career in research. The captain introduced him to Sir Almroth Wright, who agreed to take Fleming under his wing. When World War I broke out, Fleming served in the Army Medical Corps as a captain. During this time, he observed the death of many of his fellow soldiers, not always from wounds inflicted in battle, but from the ensuing infection that could not be controlled. The primary means to combat infection was antiseptics, which frequently did more harm than good. In an article he wrote during this time, Fleming discussed the presence of anaerobic bacteria in deep wounds, which proliferated despite antiseptics. Initially, his research was not accepted, but Fleming continued undaunted and in 1928, Fleming began a series of experiments involving the common staphylococcal bacteria. An uncovered Petri dish sitting next to an open window became contaminated with mould spores. Fleming observed that the bacteria in proximity to the mould colonies were dying, as evidenced by clearing of the surrounding agar gel. He was able to isolate the mould and identified it as a member of the Penicillium genus. He found it to be effective against all Gram-positive pathogens, which are responsible for diseases such as scarlet fever, pneumonia, gonorrhoea, meningitis and diphtheria. He discerned that it was not the mould itself but some 'juice' it had produced that had killed the bacteria. He named the 'mould juice' penicillin. "I did not invent penicillin. Nature did that. I only discovered it by accident." [5]. William Withering, author of An Account of the Foxglove (published in 1785), popularized the medical use of digitalis. Digitalis means finger-like and refers to the flowers of the foxglove [6] Figure 1[7] Withering had the idea of gathering the leaves when the blossoms came out.

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Credit: Digitalis Lanata (Woolly Foxglove) Sue Snell. Source: Wellcome Collection.

Figure 1: Digitalis Lanata (Woolly Foxglove).

The leaves were dried, either in the sun or on a pan over a fire, becoming a green powder that was used directly or made into an infusion. Withering used digitalis for many ailments, including edema, epilepsy, hydrothorax, ovarian cysts, and tuberculosis. Withering occasionally used digitalis as a treatment of last resort, " whilst I was less expert in the management of the digitalis, I seldom prescribed it, but when the failure of every other method compelled me to do it, if the properties of that plant had not been discovered, by far the greatest part of these patients would have died. Charles Edmund Cullen, a nurse who may be the most prolific serial killer in American history, used digoxin as his poison of choice. He was arrested in 2003 after a 16-year murder spree. He reports killing at least 40 patients, but evidence suggests that he may actually be responsible for hundreds of deaths [6]. Percussion was known to physicians in ancient times, including Hippocrates. However, it was Leopold Auenbrugger, an

Austrian physician, who first described its role in lung diseases. He observed the technique from his father who by percussing wine barrels was measuring their fluid level. In 1761, after a decade of post-mortem experiments Auenbrugger published the first monography about percussion. It gained on popularity only because Napoleon's court physician Covisart translated it to French in 1808. Many physicians started to investigate its role in diagnosing diseases even more, most notably René Laennec, the student of Corvisart and the inventor of stethoscope, Josef Škoda, the first physician to apply principles of physics in percussion, and Adolph Piorry, the inventor of pleximeter and indirect percussion technique known today. Until the discovery of x-ray in 1895, percussion and auscultation were the chest investigation methods [8]. Adolf Kussmaul – with the good sense to use a professional sword-swallower for the demonstration – passed down the oesophagus into his subject's stomach a hollow, rigid metal tube – the first gastroscope [9]. The "father of modern genetics," Mendel chose to study plants in his monastery's garden. Mendel was assisted in his experimental design by Aleksander Zawadzki while his superior abbot wrote to discourage him. After initial experiments with pea plants, Mendel settled on studying seven traits that seemed to be inherited independently of other traits: seed shape, flower color, seed coat tint, pod shape, unripe pod color, flower location, and plant height. From 1840 to 1843, he studied practical and theoretical philosophy and physics taking another year off because of illness. He also struggled financially to pay for his studies, and his sister Theresia gave him her dowry. Later he helped support her three sons, two of whom became doctors. He became a monk and was given the name "Gregor" (Řehoř in Czech) when he joined the order of saint Augustine [10].

Conclusion and recommendations:

Alexander Fleming suddenly died of coronary thrombosis at home. He had been suffering from what he perceived to be gastric upset for some weeks. When his wife called their family physician regarding the onset of nausea on March 11, he reassured them that a house visit was not necessary. However, within minutes, he succumbed to the coronary event, he died as he wished; quietly, without a gradual decline in physical or mental capacity, and even without inconveniencing his physician" [5]. Despite the benefits from their efforts, they suffered sometimes So we have to show the new generations of doctors how the ancient suffered for their luxury, so they are not only a relic from the past but a hope for the future

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