

Anecdotes from History

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Abstract

Doctors are the part of a great science that has direct influence on the wellbeing of human life. With the continuous evolvement of this science, came many great inventions and discoveries which mitigated human sufferings and provided a healthy and long life. Here is a brief enumerate of some of the great inventions of medical history which had a profound effect on the human life and paved way for the future developments in medicine.

Keywords: Medicine, History, Greatest inventions, Discoveries.

Introduction

Medical science has grown by leaps and bounds since the last century. Each and every invention or discovery of medical science is unique in itself and demands our utmost regard for its ideas, efforts, sacrifices and usefulness.

A comprehensive catalogue was obtained after a methodical search of available literature in print media as well as in web world regarding the top inventions in medical science. Compiling them, the inference drawn was quite informative and is enumerated here.

Perhaps one of the greatest inventions was the discovery of Penicillin by Alexander Fleming in 1928, which opened the doors to all the future antibiotics to fight series of infections ranging from trivial boil to tsunami-like life-threatening sepsis. In United States, approximately 750,000 cases of sepsis occur each year. The mortality associated with severe sepsis ranges from 30% to 50%, with mortality increasing with advancing age.⁽¹⁾ Indeed, infections pose a tremendous burden on the healthcare system, especially in third world countries.

In continuation with a sepsis, another remarkable discovery was the concept of hand washing. Prior to the discovery of microbial pathogens, many believed that disease resulted from evil spirits. However, scientific contributions during 1800 by Louis Pasteur and Robert Koch proved that tiny microbes could cause fatal and deforming disease such as tuberculosis and smallpox. But dramatic decrease in infectious disease between discovery of microbial contribution and discovery of antibiotics was attributed not to high-tech medical treatment, but rather to changes in human behavior. Ignaz Semmelweis and John Snow are attributed for initiating our daily lifestyle practice of hand washing and drinking clean water. Ignaz Semmelweis, a physician in Vienna, who strongly advocated hand washing, however could not convince his colleagues of importance of his discovery. He was thought to have gone mad and died in an institution

from sepsis due to injuries he received, much like many women he sought to protect during childbirth. At almost same time, in 1800s, Dr Oliver Wendell Holmes concluded that puerperal fever was transmitted due to the poor maintenance of asepsis.^(2,3,4)

Another remarkable invention was the discovery of anaesthesia, one of the few specialties which have witnessed enormous advancement in itself. Today all the great surgeries, including transplantations, heart and neurological surgeries, intricate plastic and cosmetic surgeries cannot be achieved without an efficient anaesthesiologist. Not just Operation Theater, the role of anaesthesiologist has spread to critical care and intensive care units, besides high dependency areas. One of the remarkable achievements with-in this specialty was the mastering of pain. Today anaesthetists are providing analgesia in not just preoperative and postoperative settings, but they are also providing breakthrough pain relief in chronic painful conditions, like neuropathic pain, cancer pain, phantom limb pain etc.⁽⁵⁾

Cardiopulmonary Resuscitation is again one of the life savings and life sustaining procedure where contribution of anaesthesiologists is at par with other specialties.⁽⁵⁾

What opened the gates of this specialty to modern medicine was the demonstration by WTG Morton at Massachusetts General Hospital in Boston USA on 16th October 1846. He successfully demonstrated the extraction of a large surgical neck tumour with huge tortuous veins by ether inhalation in sitting position. The surgeon was 68years old Dr. John Collins Warren. Today's specialty marvels this demonstration, which is due to not one, but many facts: a large neck tumour could have resulted in difficult intubation; the procedure was done in sitting position which carried the inherent risks of fatal air embolism; and tumour itself was large with tortuous veins of neck region with very obvious risks of massive bleed and which demanded utmost dexterity in handling it. Still, Morton carried out

the procedure successfully with his poorly designed inhaler, and with no intravenous access. As a tribute to WTG Morton, October 16th is celebrated as world anaesthesia day.^(5,6,7)

Underlying these marvelous inventions, there are instances of similar discoveries, which however had to face the wrath of masses. Like the one demonstrated by Horace wells, two years earlier, in which Morton himself was present. It was the demonstration of analgesic effects of nitrous oxide in tooth extraction. During the extraction subject moved and groaned, only later to proclaim that only little pain was felt. But by that time Wells had been discredited from demonstrating the analgesic properties of nitrous oxide. Wells incident reflects that the conclusions are not just based on an individual's proficiency, but social beliefs, peer views; and also political outlook probably also play a great role.^(5,7,8)

And last but not the least, we would like to narrate a very interesting and a well-known event from our ancient scripture Ramayana, related to anaesthesia. As we all know, during the yudh between Lord Ram and Ravana, Laxshman was made unconscious by an arrow of Meghnath. Then our Lord Hanuman had brought that sanjivini-booti from Himalayas to wake Laxshman. After having that sanjivini-booti, Laxshman woke up to face Ravan's army. This whole incident bears the analogy to anaesthesiology, due to the fact that the arrow of Meghnath must have borne in its tip, a muscle relaxant. There are many muscle relaxants which are plant derived, especially curare, a powerful muscle relaxant. This muscle relaxant paralyzed Laxshman. And the sanjivini- booti brought by Lord Hanuman contained neostigmine in it. Neostigmine is a reversal drug which we anaesthetists use to reverse the effects of relaxant. After taking this sanjivini-booti i.e. neostigmine, effects of muscle relaxant was vanished and Laxshman stood up to face the war.⁽⁹⁾

Another theory postulates that arrow tip of Meghnath might have borne an opioid. The Sanjivini Booti must be Naloxone, a plant derived alkaloid, used in anaesthesia to reverse the opioid effects.⁽¹⁰⁾

These are just few instances of anecdotes out of the vast sea of medical discoveries which have been enumerated and are probably the greatest inventions of medical science. With no intention to undermine the achievements of other inventions and innovations, we

would always be indebted to our great researchers, whose great ideas had contributed in decreasing human sufferings.

Conclusion

Discoveries and inventions are inherent to our progress. As said earlier, besides the great achievements which the world knows, there are many unknown facts, events; as well as great discoverers, who all have contributed to the advancement of medicine and it's each subspecialty to its present state. We all, with heads bowed, pay our obeisance to all the great minds, known and unknown, who have worked relentlessly to lessen the miseries of living beings.

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