

History of World Anesthesiology in Reflection of Collecting Media

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Abstract

The article presents the materials of the study devoted to the reflection in the means of collecting, such as philately, phaleristics and numismatics, data on the history of world anesthesiology, and about its heroes. The article is illustrated with images of postage stamps, artistic marked envelopes, original postmarks, medals, tokens and commemorative badges, their description and additional information to them are given.

Keywords: Cardiac, Anesthetics, Heart Failure, Diastolic Dysfunction, Systole, Preload, Afterload.

Introduction

The study of the history of medicine, its heroes, people who stood at the origins of the creation of a particular medical discipline, is always very relevant and in demand. This fully applies to the study of the history of anesthesiology. Collectibles, such as philately, phaleristics, philocartography and philomenia, numismatics, as auxiliary scientific disciplines, are capable, in full, brightly and unconventionally, to tell and present the story and heroes of any medical discipline. The study of the representation of anesthesiology, its formation and history, is an important element in the study of world medicine and, in particular, the history of this direction.

Aim of the work

To present new, non-standard data about the history, formation and heroes of world anesthesiology and the fight against pain, through such means as a variety of collectibles and, in particular, postage stamps and envelopes, commemorative coins and medals, badges and awards dedicated to anesthesiology.

Material and Methods

In carrying out this research work, we used the method of in-depth literary-critical analysis of available scientific sources of information on the issue under study, using reference books, encyclopedias,

catalogs, specialized periodicals, and Internet resources.

Result and Discussion

A person's struggle with pain is impossible without knowledge of the structure of the central and peripheral nervous systems of a person, as well as without knowledge of pharmacology and pharmacognosy. Also, important scientific disciplines that significantly help in the production of various types of painkillers and the creation of their formulas are chemistry, pharmaceutical and organic chemistry, technology for the production of medicines. I study the world around us, people have found many plants, organic and inorganic substances, the poisons of many animals and insects, which have a variety of effects - from analgesic properties to paralyzing, muscle relaxant effects, as well as the ability to influence human cardiac and respiratory activity. In Fig. 1, I would like to present a selection of postage stamps representing a number of medicinal plants, the derivatives of which are actively used in many areas of medicine, incl. and in modern anesthesiology. These are opioid drugs - morphine, omnopon, promedol and a number of others, and cocaine derivatives obtained from the leaves and fruits of South American coca, atropine, belladonna, hemp (medical cannabis) and many others.



Figure 1: Medicinal Plants Containing Narcotic Substances

Separately, I would like to talk about the "pioneers" in the field of anesthesia and, in particular, about the practical application of anesthesia, using ether and chloroform. It will be about such innovative scientists and surgeons as the American physician Crawford W. Long. The first documented and internationally recognized use of ether for surgical anesthesia occurred on March 30, 1842, by M.D. Crawford Long. On March 30, 1842, he injected ether to his friend James Venable to remove a cyst on his neck, and on June 6, the patient had the cyst removed a second time using the same ether anesthesia [11, 12, 15, 24, 26]. In 1847, Dr. Long administered ether to his wife to relieve labor pains, in the same year D.Yu. Simpson in Scotland, who is considered the first obstetric

anesthesiologist [11, 12, 15, 24, 26]. Of course, practical actions and the first primitive methods of giving anesthesia to a patient can make us smile today. But then, these pioneers looked for new methods, selected equipment and materials, experimented, naturally made mistakes and failed! But, thanks to their accumulated, invaluable practical experience, in the end, medicine has received a new science - anesthesiology, in all its today's diversity. A selection of philatelic materials (postage stamps, first day envelopes and artistic marked envelopes) and commemorative bronze and silver medals dedicated to this scientist are shown in Fig. 2 [11, 12, 15, 24, 26, 30].



Figure 2: Collectibles Dedicated to Crawford W. Long

William Morton a Boston-based dentist, was looking for a painless tooth extraction solution. He consulted the chemist KT Jackson, who knew that ether caused unconsciousness and insensitivity to pain. In 1846, he removed a tooth from a patient under ether anesthesia and patented the process in collaboration with Jackson. The following month, he organized over-the-air removal of a facial tumor at Massachusetts General Hospital. The success and publicity

of this operation made anesthesia an important adjunct to surgery [8, 28, 30]. A selection of collection materials (postage stamps, envelopes, commemorative medals) from countries such as Transkei, USA, Palau, India, Ukraine, talk about the scientific and practical activities of the American scientist, medical practice, Dr. William Morton. The collection materials dedicated to W. Morton are shown in Fig. 3 [8, 28, 30].



Figure 3: Collectible Materials Dedicated to William Morton

In Scotland, in 1847, obstetrician Professor James Y. Simpson began giving women chloroform to relieve pain during childbirth. Chloroform is rapidly becoming a popular anesthetic for surgical and dental procedures. Chloroform was independently discovered in 1831 by Samuel Guthrie from the USA, Eugene Subeirand from France and Justus von Liebig from Germany [8, 28].



Figure 4: James Y. Simpson Reflecting Collectibles

William S. Halstead Received in 1877 a Doctor of Medicine degree from the College of Physicians and Surgeons of Columbia University, USA. William S. Halstead went abroad to study modern European practices in medicine, anatomy, embryology and surgery for three years [8, 28]. In 1885, Halstead developed conduction anesthesia by injecting cocaine into his nerve trunks. He was the first to advocate strict aseptic techniques, the use of rubber gloves, silk sutures, and complete wound closure whenever possible. He also initiated the practice of hospital surgical residency [4,8,28]. Philatelic materials dedicated to the US Halstead are presented in Fig. 5 [4, 8, 28].



Figure 5. Philatelic Materials Dedicated to William S. Halstead

Dr. John Snow - anesthesiologist, epidemiologist. He popularized obstetric chloroform anesthesia with the successful pain relief of labor at Queen Victoria, in connection with the birth of Prince Leopold and Princess Beatrice. His books "On the inhalation of ether vapors", "On chloroform and other anesthetics", at one time, were handbooks for anesthesiologists [8, 21, 28]. A commemorative medal dedicated to D. Snow is shown in Fig. 6 [8, 21, 28].



Figure 6: Commemorative medal dedicated to Jon Snow

In 1931, in England, the Royal Society of Medical Institutions instituted a medal in honor of Henry Hill Hickman. The first medal was awarded, in 1935, to the Canadian anesthesiologist Wesley Bourne. The Henry Hill Hickman Medal, awarded every three years, to individuals for original work and outstanding service in the field of anesthesiology. The award is carried out by the Council of the Royal Society of Medicine, on the recommendation of the Council of the Anesthesiology Section [8, 16, 28]. G.Kh. Hickman was the first to try to induce a hypnotic state with inhaled gas. That is, he was one of the founders of the practical application of inhalation anesthesia techniques in surgery [8, 16, 28]. He called the resulting unconscious consciousness "suspended animation". His pamphlet on this subject, in 1824, was refused reading in England and ignored in France [8, 16, 28]. Commemorative medal,

in obverse and reverse, dedicated to G.Kh. Hickman, is shown in Fig. 7 [16].



Figure 7: Commemorative medal dedicated to Henry Hickmann In 1800, the British chemist Sir Humphrey Davy published his detailed study of nitrous oxide (N₂O), also known as laughing gas. Davy's experiments included inhaling gas and observing his own reactions. He noted that it eased toothache and suggested that it could be used to relieve surgical pain. Although his book was highly praised, the idea of inhalation anesthesia was not immediately accepted. It took another 44 years before the American dentist Horace Wells tested the ability of nitrous oxide to reduce pain by removing one of his own teeth under the influence of gas [24]. A commemorative medal, in obverse and reverse, dedicated to Sir Humphrey Davy, is shown in Fig. 8 [24].



Figure 8: Commemorative Medal Dedicated to H. Davy

August Carl Gustav Bier This German physician was a versatile, innovative and extremely unorthodox surgeon. Influenced by the introduction of lumbar lumbar puncture as a diagnostic and therapeutic technique used by his colleagues Heinrich Irneus Quincke in Kiel, K.G. Bier performed spinal anesthesia in 1898. In 1908, he introduced the use of intravenous analgesics, in particular procaine, using a double turnstile, a technique still called the Bier block [8]. Philatelic materials dedicated to A.K.G. Bier are shown in Fig. 9.



Figure 9: Postcard and postmarks dedicated to August Carl Gustav Bier

Of course, speaking about the history of the formation of world anesthesia, one cannot fail to mention the invaluable experience of using ether and chloroform anesthesia, a famous Russian surgeon, one of the founders of military field surgery, N.I. Pirogov, during

the Crimean and Caucasian wars, as well as in Bulgaria [2, 3]. Figure 10 shows collection (philatelic, phaleristic and numismatic) materials dedicated to the memory of N.I. Pirogov [2, 3].



Figure 10: Collectible Materials Dedicated to N.I. Pirogov

Dr. Lorenz Böller Austrian surgeon and traumatologist who specialized in the treatment of gunshot wounds to bones and joints [10, 13, 18, 20, 25]. Of course, his medical practice was not com-

plete without the use of adequate anesthesia. A selection of philatelic and numismatic materials (silver commemorative medals) dedicated to L. Böller are shown in Fig. 11 [10, 13, 18, 20, 25].



Figure 11: A Selection of Collectibles Dedicated to Lorenz Böller

Also, the role of the father and son of surgeons A.A. and A.V. Vishnevskikh, to whom the collection of collection materials presented in Fig. 12 [5, 6]. Alexander Vasilyevich developed local anesthesia (conduction and infiltrative anesthesia, novocaine blockade) to perfection and in 1932 published the monograph "Local anesthesia using the creeping infiltrate method". Affordable to ordinary surgeons, local anesthesia has contributed to a significant increase in operational activity in small hospitals, including district and rural hospitals. Knowledge of anatomy and good surgical technique made it possible to perform a wide range of surgical interventions

on various areas of the human body under local anesthesia [5, 6]. The expediency of performing primary surgical treatment of wounds under local anesthesia according to the method of A.V. Vishnevsky [5, 6]. He summarized his vast experience in the field of military field surgery in the monographs "Towards the doctrine of traumatic shock" and "Principles of organizing surgical care in a front-line operation." In 1953, AA Vishnevsky performed the world's first heart surgery under local anesthesia [5, 6]. Collectible materials dedicated to A.A. and A.V. Vishnevsky are shown in Fig. 12 [1, 7, 8, 28].



Figure 14: Philatelic Materials on Anesthesiology

In Fig. 15, philatelic materials are presented, dedicated to the famous woman scientist, practitioner, pediatric anesthesiologist-resuscitator - Virginia Apgar. It is known to all doctors in the world,

thanks to its famous Apgar scale, for assessing the viability of the fetus [8, 17, 28, 31].



Figure 15: Philatelic materials dedicated to Virginia Apgar

In Fig. 16, represented by Daniel Bove, Nobel laureate in physiology or medicine, Italian pharmacologist, who is depicted on a postage stamp of Monaco [8,28]. He was engaged in antihis-

tamines and neuropharmacological drugs, curariform substances, in particular muscle relaxants, which was very important during surgical interventions in different areas of surgery [8, 38, 31].

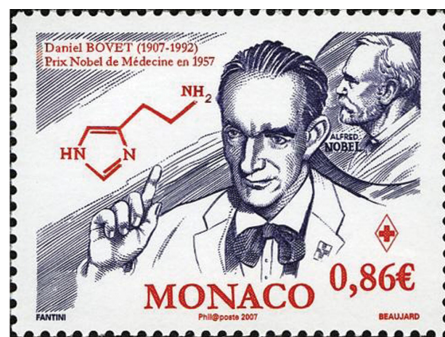


Figure 16: Monaco Postage Stamp Dedicated to Daniel Bove

During the COVID-19 coronavirus pandemic, a huge, inhuman physical and psycho-emotional stress fell on the staff of intensive care and anesthesia departments around the world! The Post Office of the Pridnestrovskaja Moldavskaia Respublika (PMR) has issued a selection of 8 postage stamps dedicated to heroes - medical workers, two of which are dedicated to anesthesiologists-resuscitators. Also, this picture shows the Canadian anesthesiologist Harold Griffith.

Dr. Griffith was convinced that research and education could significantly improve this specialty, and he formulated guidelines for

the safe practice of anesthesia by observing and recording vital signs and assisting breathing if this proves to be inadequate. He founded the first recovery ward in Canada in 1943 and the intensive care unit in 1961. G. Griffith was vice president of the American Society of Anesthesiologists in 1946, president of the International Society for Anesthetic Research in 1948, and founded the World Federation of Societies of Anesthesiologists. He was a member of the editorial board of the journal "Anesthesia and Analgesia" from 1952 to 1961. These postage stamps, as well as other collectible materials, incl. and dedicated to the world congresses of anesthesiologists are shown in Fig. 17 [17, 30, 31].



Figure 17: A selection of collection materials dedicated to anesthesiologists and anesthesiology

For many centuries, the magic and wonders of Chinese acupuncture have been known all over the world, incl. and its use for the purpose of anesthesia, as well as during surgical interventions of

varying degrees of complexity and volume of performance. A selection of philatelic materials and a commemorative Chinese coin dedicated to acupuncture is shown in Fig. 18 [9, 29].



Figure 18: Collectible materials dedicated to acupuncture

The following Fig. 19, phaleristic and numismatic materials are presented: a selection of commemorative badges and medals dedicated to anesthesiology and resuscitation (mainly during the USSR

period), congresses held in this medical specialty, in different years, both in Russia and in Ukraine, as well as a number of foreign countries - Spain and Portugal [22, 23, 27, 31].





Figure 19: Faleristic and numismatic materials on anesthesiology

This concludes the story concerning the reflection of the history of world anesthesiology, in the reflection of a number of collectibles. The next article is planned to be devoted to the history of resuscitation and emergency medical care, also using philately, faleristics and numismatics.

Conclusion

1. The article presents new collection materials devoted to the reflection in the means of world collecting, albeit in a brief form, the history of world anesthesiology.
2. The presented illustrative materials can be used as an auxiliary informative tool in the study of such disciplines as "Anesthesiology", "Virology", "Reanimatology" and "History of Medicine" in specialized universities and departments.
3. Modern collectibles, in all their diversity, quite fully, brightly and creatively, reflect the history of world anesthesiology and its heroes of different years, from many countries of the world.

Conflict of Interest:

I have no conflict of interest.

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