



EPONYMS IN BILIARY TREE

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ЭПОНИМЫ В БИЛИАРНОЙ СИСТЕМЕ

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Summary

Eponyms are very commonly used in medicine. Eponyms serve the goal of honoring scientists who have made important contribution to medicine. The article describes widespread and seldom used eponyms found in biliary structures. Priority of discovery of the «Heister's valve», «Luschka's ducts», «sphincter of Oddi», «Vater's papilla» was established. An author provides biographical sketches of physicians in whose honor some anatomic entities were named.

Keywords: eponyms, biliary system, history of medicine.

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Резюме

Эпонимы достаточно часто используются в медицине. В статье описаны как широко известные, так и редко употребляемые эпонимы структур в желчных путях. Установлен приоритет в открытии «заслонки Гейстера», «протоков Люшки», «сфинктера Одди», «соска Фатера». Приведены короткие биографические справки врачей, в чью честь были названы некоторые анатомические структуры.

Ключевые слова: эпонимы, билиарная система, история медицины.

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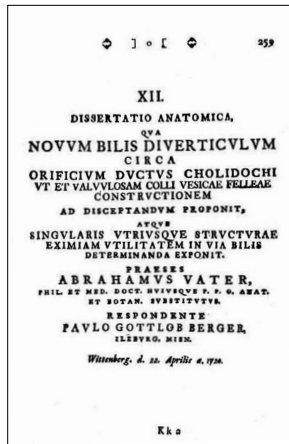


Fig. 1.
Henri Hartmann (1860-1952).

Fig. 2.
Title page of Abraham Vater's dissertation.



Fig. 3.
Abraham Vater (1684-1751).

Fig. 4.
Lorenz Heister (1683-1758).

Tendency to replace eponyms by more descriptive terms is growing now. In spite of this, eponyms are still commonly used in medicine. The purpose of this work is systematization of the eponymous nomenclature in biliary system.

Hartmann's pouch — bulging of the wall of gallbladder neck and a site for quiescent gallstones.

Henri Albert Charles Antoine Hartmann (1860–1952) — French surgeon (*fig. 1*). He studied medicine in Paris. Hartmann became doctor of medicine in 1887 and head of chair of surgery at Hotel Dieu in Paris in 1909. Hartmann can be recognized as one of the pioneers of coloproctology of the XX century. He is remembered for the two-stage colectomy (Hartmann's operation) performed when left-sided parts of large intestine obstructed [1].

Heister's valve (spiral valve) — fold of mucous membrane at the cystic duct origin, arranged in a spiral manner. Its function remains obscure. There are two main explanations for the existence of this fold. First one, it regulates flow of bile into and out of the gallbladder. Another point of view is that it acts as an architectural device preventing collapse of the cystic duct.

German anatomist, surgeon and botanist Lorenz Heister is credited with the discovery of this anatomical structure in 1732 [2]. However, first record of spiral valve appeared in dissertation of Abraham Vater "Dissertatio de novum bilis diverticulo circa orificium ductus choledochi et de valvulosa colli felleae vesicae constructione atque singularis utrimque structurae eximia utilitate in via bilis determinata" ("Treatise on a new diverticulum near the orifice of the common bile duct and also on the valvular arrangement in the neck of the gallbladder, both very important structures for the passage of bile") published in Wittenberg in 1720 (*fig. 2*).

Abraham Vater (1684–1751) — German anatomist and physician (*fig. 3*). He was the son of a distinguished anatomist Christian Vater. Vater obtained his degree in medicine at the University of Leipzig (1710). In 1719 he was appointed professor "extraordinarius" of anatomy and botany at the University of Wittenberg. After his father's death in 1733 Abraham Vater was appointed to the chair of Anatomy. In 1737 he was elected to the chair of pathology and therapy. He founded an anatomical museum, gave anatomic demonstrations for women. Apart from his disclosures in biliary system Vater is true discoverer of what we know now as "Vater-Pacini corpuscles". He introduced vaccination against smallpox in Germany [3].

One of the founders of scientific surgery Lorenz Heister (1683–1758) (*fig. 4*) took the MD degree at Leiden in 1708. He then served as a field surgeon in a number of campaigns. In 1710–1720 he worked as a professor of Anatomy and Surgery at the University of Altdorf. In 1720, Heister was appointed professor of anatomy and surgery at Helmstadt, holding this tenure until his death in 1758. His treatise "Chirurgie" published in 1718 became standard surgical textbook in the eighteenth century and was translated into several languages [4].

Fig. 5.
Ewald Hering (1834-1918).



Fig. 6.
Antoine Ferrein (1693-1769).



Fig. 7.
Hubert von Luschka (1820-1875).



Fig. 8.
Pablo Luis Mirizzi (1893-1964).



Hering's canal (cholangiole) — connects the bile canaliculus to the interlobular bile duct.

Karl Ewald Konstantin Hering (1834–1918) — German physiologist and psychologist (*fig. 5*). He studied in the University of Leipzig and defended there his doctoral dissertation in 1860. Later he became professor of physiology at the Charles University in Prague, returning to Leipzig in 1895, where he succeeded well known physiologist Carl Ludwig [5].

Luschka's ducts (also known as aberrant bile ducts, subvesicular ducts, supraventricular ducts) — accessory bile ducts found within gallbladder bed. They are present in 20–50 % cases. They do not drain any particular part of liver and can empty into intra- or extrahepatic bile ducts. Injury to Luschka's ducts is the very common cause of bile leak after cholecystectomy.

Presence of aberrant bile ducts was first reported by a French anatomist Antoine Ferrein (1693–1769) in 1753. However, they were named after Hubert von Luschka, who gave very detailed description of these structures in 1863 in the second volume of his 3-volume textbook of clinical anatomy [6].

Antoine Ferrein (*fig. 6*) was a professor of medicine and surgery in the Royal College in Paris from 1742 to 1768, professor in the Jardin des Plantes from 1751. He is well known for his pioneering researches on physiology of larynx. Numerous experimental studies carried out on freshly killed animals (dog, oxen, swine), and in one case, upon a human cadaver shortly after death, allowed him to propose one of the first theories of phonation [7].

German anatomist Hubert von Luschka (1820–1875) (*fig. 7*) is one of the major anatomists of the XIX century. He at first studied pharmacy, then medicine at Freiburg and Heidelberg. In 1845, he earned his degree in medicine at the University of Freiburg. He continued his education by traveling to Paris, Vienna, and Northern Italy. In 1849, Luschka moved to Tübingen University where in 1853 he succeeded his teacher Friedrich Arnold (1803–1890) as a professor of anatomy, position he held until his death in 1875. He described many anatomical structures more than 20 of them were named in his honor [8].

Lütken's sphincter — circular bundle of smooth muscle is present at the junction of the cystic duct and gallbladder neck.

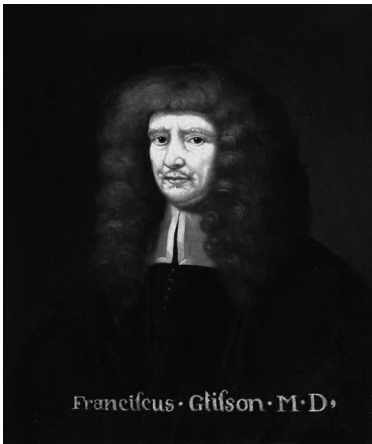


Fig. 9.
Francis Glisson (1597-1677).

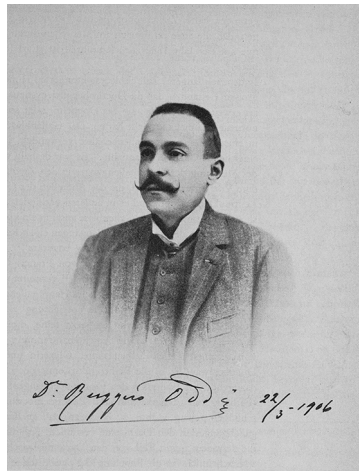


Fig. 10.
Ruggero Oddi (1864-1913).

Ulrich Lütken (1894-?) — German surgeon. In 1920–1924 he was assistant of Ludwig Aschoff in clinic of University of Freiburg. After that he worked in surgical university clinic in Berlin until 1932 [9]. In 1926 Lütken published monograph “Aufbau und funktion der extrahepatischen gallenwege” («Structure and function of extrahepatic biliary tract») where he described first structure named in his honor.

Mirizzi’s sphincter (proximal sphincter of the common bile duct) — circular bundle of smooth muscular fibers placed in the common bile duct just after merging of the common hepatic and cystic ducts. Some investigators reject its existence.

An Argentinean surgeon Pablo Luis Mirizzi (1893–1964) (*fig. 8*) graduated from the University of Cordoba in 1915. He studied surgery at the prestigious medical institutions in the United States of America and Europe, such as the Mayo and Cleveland Clinics. In 1927 Mirizzi became full professor of clinical surgery at his Alma Mater. In 1931, Mirizzi performed the first intraoperative cholangiogram [10].

The term “**sphincter of Oddi**” refers to three sphincters found at the distal end of the common bile duct and the pancreatic duct. They are: distal sphincter of ductus choledochus (**Boyden’s sphincter**), sphincter of pancreatic duct (**Westphal’s sphincter**), sphincter of hepato-pancreatic ampulla (**Westphal’s pylorus**).

In 1654, Francis Glisson was first who described a sphincter at the distal segment of common bile duct within duodenal wall, but he could not explain its purpose. In 1887 this structure was rediscovered by Ruggero Oddi. Whilst a fourth year student in the University of Perugia he performed investigation of sphincter’s structure and function. In his article “D’une disposition a sphincter speciale de l’ouverture du canal choledoch” published in “Archives Italiennes de Biologie” Oddi gave detailed description of its anatomical features and physiological properties [11]. But first who recognized three structural components of “sphincter of Oddi” was Edward Allen Boyden [12].

Francis Glisson (1597–1677) (*fig. 9*) was a British physician and anatomist. He studied at Caius College, Cambridge where he obtained his doctoral degree in 1634. Two years later Glisson was appointed Regius professor of physics at Cambridge, a post he held until his death. He was one of the early Fellows of the Royal Society (1661) [13].

Ruggero Ferdinando Antonio Guiseppe Vincenzo Oddi (1864–1913) (*fig. 10*) was an Italian physiologist and anatomist. He studied medicine in the University of Perugia, Bologna and Florence. At the age of 29 years Oddi was appointed head of the Physiology Institute at the University of Genoa. But six years later he was relieved of his position because of narcotics usage and fiscal improprieties. This was followed by a short period as a doctor with the Belgian colonial medical service. For unclear reasons, he then traveled through Africa where he died in poverty in Tunisia [11]. Place of his burial is unknown.

Edward Allen Boyden (1886–1976) was a professor at Institute of Anatomy (University of Minnesota).

Carl Friedrich Otto Westphal (1833–1890) (*fig. 11*) was a German neurologist and psychiatrist. He studied medicine at the Universities of Berlin, Heidelberg and Zurich and received his doctorate after an educational trip to Vienna and Paris. In 1857 he joined the smallpox clinic at the Berlin Charité hospital to rise to become full professor of psychiatry in 1874 [14]. Most probably these structures were named in Westphal’s honor due to his experiments on effects of nerve stimulation on functioning of biliary system.

Vater’s ampulla (hepatopancreatic ampulla) — a dilation formed by junction of the common bile and main pancreatic ducts found within major duodenal papilla.

Fig. 11.
Carl Westphal (1833-1890).



Fig. 12.
Title page of Samuel Collins' treatise "A systeme of anatomy...".

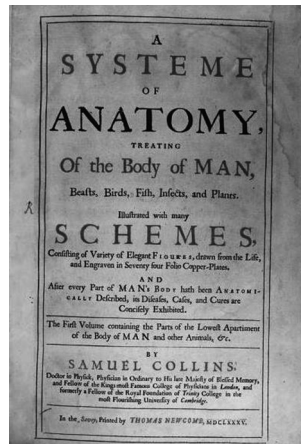


Fig. 13.
Samuel Collins II (1618-1710).



Vater's papilla (major duodenal papilla) — mucosal protuberance, located at the medial wall of the descending part of the duodenum and represents an outlet system for the common bile duct and the main pancreatic duct.

These anatomical entities were named in honor of mentioned above Abraham Vater, who described them in his work published in 1720. But, first record of major duodenal papilla can be found in Samuel Collins' "A systeme of anatomy..." (fig. 12) published in London in 1685. He wrote: "... the termination of the pancreatic duct is inserted about four fingers below the pylorus, where a prominence or little teat may be discovered near the flexure of the duodenum..." [15].

British anatomist and physician Samuel Collins II (1618–1710) (fig. 13) graduated from Trinity College. After that he traveled and studied throughout Europe and earned his degree in medicine at the University of Padua in 1654. He was admitted a fellow of the Royal College of Physicians in 1668. Same year he was appointed physician to Charles II. Collins was censor and later president of College. In 1694 Collins was appointed Lumleian lecturer, position he held until his death [16].

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