



KOSOVA JOURNAL OF SURGERY

- EDITORIAL: RIFAT LATIFI: The Imperative of Effective Management of War-Related Burn Injuries in an Era of Dehumanization and Invisible Enemies
- MOHAN TANNIRU, SAMER KAZZIHA: Digital Leadership and Strategies to Transform Post-Surgical Transition of Care (TOC)
- BISHARA ATIEH: Emergency Management of War-Related Burn Injuries
- ZACHARY BALLINGER, GABRIEL DE LA CRUZ KU, DEMETRIUS LITWIN: Laparoscopic Repair of Paraesophageal Hernia and Gastric Volvulus
- ERVIS AGASTRA, SHELA SELHANEJ, AIDA AGASTRA: Surgical History of the First Documented Transabdominal Hernia Repair by Albanian Physicians of Constantinople in the 18th Century

Volume 9
Issue 1
June 2025
ISSN: 3027-5008 (Online)
ISSN: 3027-5016 (Print)



Surgical History of the First Documented Transabdominal Hernia Repair by Albanian Physicians of Constantinople in the 18th Century

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Abstract

Abdominal wall hernias are among the oldest surgical conditions known to mankind, and their evolving surgical treatment reflects the history of surgery itself. This article presents a lesser-known fact regarding the first documented transabdominal hernia repair performed by Albanian physicians in Constantinople during the 18th century. This remarkable account is chronicled by Demetrius Cantemir, the Prince of Moldavia, who witnessed the procedure on his secretary. Cantemir, a noble and educated figure, detailed this unique technique in his manuscript “Incrementa atque Decrementa Aulæ Othomanicæ,” written between 1714 and 1716 and later published in English by N. Tindal in 1734. This description provides the first complete account of the transabdominal hernia repair, occurring 170 years before it was described by Lawson Tait in 1880. Portions of this earlier account were highlighted by A.E. Nicolau, a Romanian surgeon, who brought it to attention in 2008. This article focuses on the entirety of the surgical procedure as described by Cantemir.

Keywords: Hernia, Transabdominal Repair, Demetrius Cantemir, Surgery, Albania.

Abdominal wall hernias, particularly inguinal hernias, are among the oldest known surgical conditions, recognized for centuries. The earliest documented account of a hernia, also referred to as a rupture, appears in the Ebers Papyrus from 1522 B.C. in Egypt ^{1,2}. Over the subsequent centuries, influential figures such as Hippocrates, Celsus, and Galen made significant contributions to herniology. Celsus, in his renowned work “De Re Medica” (originally De Medicina), defined hernia and outlined techniques for reduction and surgical intervention, emphasizing hemostasis while preserving the testicles. Galen, an eminent physician during the Roman Empire, described groin hernias as overstretching of the peritoneum and muscles, noting procedures that involved homolateral castration and repair through dividing and ligating the remaining sac.

The Arabs later promoted cauterization of the inguinal region and scarring of the hernia sac, as exemplified by the method of Albucasis. In the early Middle Ages, Guy de Chauliac (1363) detailed the reduction of the hernia sac via taxis and described surgical interventions, including homolateral orchidectomy, cauterization of the inguinal region, and transcutaneous suturing around the spermatic cord, which was secured to an external wooden slat until it became sectioned¹. Pierre Franco (1500-1561) authored the first monograph on herniotomy, distinguishing various types of hernias and their surgical management, including strangulated hernias. Conversely, Ambrose Pare in the 16th century criticized orchidectomy, while Caspar Stromayr (1559) differentiated between direct and indirect hernias and advocated for higher ligation of the hernia sac.

Following the 16th century, advancements in anatomical knowledge led many authors, such as Camper, Scarpa, Hasselbach, De Gimbernat, and Bogros, to publish studies on the inguinal area². In 1735, Claudius Amyand performed the first appendectomy within an inguinal hernia sac, thereafter known as Amyand's hernia. Lawson Tait, a gynecologist, conducted the first transabdominal reduction of a femoral hernia in 1880 for other medical reasons³. The modern era of hernia surgery commenced with Bassini in 1888, who recognized the principles underlying effective hernia repair and advocated for a technique that approximated the inguinal ligament to the conjoint tendon⁴. Following Bassini's work, many techniques emerged, particularly tension-free hernia repairs utilizing polypropylene mesh, leading up to laparoscopic methods, such as transabdominal (TAPP) or preperitoneal (TEP) approaches, and robotic repairs. A notable gap in the history of hernia surgery, particularly during the early Middle Ages to the inception of "modern hernia repair," remained unaddressed until recently. In the past 16 years, a transabdominal technique for hernia repair was documented in detail by Demetrius Cantemir, the Prince of Moldavia, in his book "Incrementa atque Decrementa Aulæ Othomanicæ," or in English "The History of the Growth and Decay of the Ottoman Empire," published in two parts between 1714 and 1716⁵.

Description of the Technique and Post-Operative Period

Demetrius Cantemir (1673-1723) was a Moldavian prince, statesman, soldier, musicologist, historian, and man of letters. Of noble and Tatar descent, he received

an education in Greek, Latin, literature, music, and history⁶. From 1687 to 1710, he served as a hostage or envoy in Constantinople, where he learned Turkish and studied Ottoman history at the Patriarchate's Greek Academy.



Fig. 1: A Portrait of Demetrius Cantemir (1673-1723)

Cantemir's book, "Incrementa atque Decrementa Aulæ Othomanicæ," is the first significant historical work on the Ottoman Empire authored by a non-Muslim. It circulated throughout Europe in manuscript form for many years and was eventually printed in English by N. Tindal in 1734, with subsequent publications in Germany and France.

In the annotation n.60 of Chapter IV of the third book in Part I, on pages 200-201 of Tindal's English translation, Cantemir discusses Sultan Suleiman I, the 10th Emperor of the Turks, and mentions Avlonia (modern Vlora in southwestern Albania), a region that, along with Epirus, was referred to as Arnaud by the Turks⁷. He lauds



Fig. 2: The First Published English Copy by Tindal of the Manuscript “The History of the Growth and Decay of the Ottoman Empire” in 1734

the inhabitants of this area as valiant soldiers, emphasizing their expertise in two skills: constructing aqueducts and treating hernias (referred to as “rupture”). Cantemir notes that the Albanians, while lacking formal knowledge in mathematics, physics, or biology, possess profound expertise in both disciplines.

Regarding hernia treatment, Cantemir recounts a specific method that he himself requested be performed on his secretary within his palace, asserting the efficacy of the procedure. He describes in detail the surgical process, which the authors of this article now present almost verbatim, as follows:

“The Albanian physicians secured the patient to a broad board, binding them from the chest to the feet. They then made an incision in the hypodermis beneath the belly, drawing out the inner coat (likely the peritoneum),

and repositioned any protruding intestines back into the abdominal cavity. The hypodermis was sutured closed with a heavy thread, tied securely to prevent slippage, after which they trimmed any excess hypodermis with a razor. The wound was then treated with hog’s grease (pork lard) and cauterized with a thick iron. After the cauterization, the wound was purposefully left open. The physicians elevated the patient’s legs and, while the patient was nearly unconscious, poured the whites of nine freshly laid eggs into the wound. Cantemir notes that if bubbling from the wound occurred for up to two or, at most, three hours, it was a positive indication of healing; if not, it predicted mortality. He also provides insights into the mortality rate associated with this procedure, stating that, to his knowledge, only one or two out of a hundred patients would die, attributing this to patient

frailty rather than the surgical technique employed by the Albanian physicians.

On the second and third days following the procedure, the infusion of egg whites into the wound was repeated. The patient remained supine and semi-conscious, being allowed no food or drink, with only their tongue moistened with a drop of water. By the fourth day, the patient was laid on the floor bound to the board, gradually regaining consciousness and voicing complaints of pain in a weak voice. They were then given a moderate amount of warm water and broth over the next three days, ensuring not to overload the stomach. By the seventh day, the bindings were loosened, and the patient could lie on a bed. To prevent movement or drawing of the legs, two attendants stood by, continuing the daily infusion of egg whites into the wound. From the ninth to the twelfth day, the wound received six egg whites, which, upon infusion, bubbled more vigorously than before.

By the fifteenth day, the wound could scarcely hold one egg white; however, the infusion was repeated until no further bubbling occurred. When this ceased, a mixed plaster of pitch (a waterproof substance used historically), oil, and other ingredients was applied, after which the patient was advised to move their feet and lie on their side. Thread control was conducted daily and removal, depending on the patient's age and strength, occurring approximately on the twentieth, thirtieth, or fortieth day, accompanied by the application of another plaster⁷."

Conclusions

Abdominal wall hernias are among the oldest known surgical conditions. It is fair to assert that the evolution of hernia repair mirrors the history of surgery itself, as many scholars contend. Despite living in an era that allows for relatively easy access to archives and manuscripts, the discovery of the remarkable history of transabdominal hernia repair by Albanian physicians as documented by Cantemir was surprising. Elements of this procedure were first referenced by Henry Marcy in 1892 in his monograph "Anatomy and Surgical Treatment of Hernias," and later by Richard H. Meade in 1965⁸.

A.E. Nicolau, a Romanian emergency surgeon, was the first to bring this historical fact to light in 2008, highlighting its significance. The manuscript that provides this evidence was first published in English in Great Britain by Nicholas Tindal in 1734 and served as a foundational reference globally regarding Ottoman history until the

mid-19th century; the authors of this article utilized this particular English version as their source of information.

This testimony represents a remarkable historical insight into surgical history, as it was long believed that the first transabdominal approach to hernia repair was executed by Lawson Tait in 1880—170 years after Cantemir witnessed the procedure performed by Albanian physicians in Constantinople. Nicolau posited that the proximity of Vlorë to Greece might suggest that Albanians learned this technique from Greek sources. However, for Albanian surgeons familiar with the Vlorë region, two alternative hypotheses appear more plausible: first, that this method originated independently within the Vlorë region, or second, considering Vlorë's historical Jewish population, that it may have been influenced by Jewish medical practices.

In conclusion, given Demetrius Cantemir's stature as a respected figure in literature, his work stands as a substantial and meticulous record of the first transabdominal hernia repair conducted by Albanian physicians in Constantinople. This discovery enriches the narrative of surgical history and serves as a valuable contribution to our understanding of the evolution of surgical techniques.

Conflicts of Interest: None.

Acknowledgements: The authors would like to express their gratitude to the University of Ghent Library in Belgium for generously providing the original English-translated book "The History of the Growth and Decay of the Ottoman Empire" by N. Tindal, published in 1756, which served as a crucial source of information for this article.

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