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MARCUS AURELIUS SEVERINUS AND HIS ATTEMPT TO REFORM THE SURGERY

Abstract: This paper will analyze the attempt of a 17th century Italian surgeon and anatomist Marcus Aurelius Severinus (1580-1656) to reform operative surgical procedures. His contribution to surgery was twofold: both on a methodological and technical level. Severinus was one of the first physicians to theorize and practice an active surgery he called “del medicar crudo” (“to medicate crudely”). He performed the newest surgical techniques, and professed a concept of an early intervening surgery, when the pathological process didn’t show signs of spontaneous resolution. Subsequently, he showed boldness in his surgical practice, as reported in some extracts of his works “De recondita abscessum natura” and “De efficaci Medicina”. However, Severinus’ efforts weren’t met with support from medical community. At that time, surgeons were more careful to avoid pain and further risks to the patients, and they preferred to wait, rather than to attempt a premature surgical approach. However, Severinus was vindicated about 250 years later, when the discovery of anesthesia and infectious prophylaxis allowed for elevation of surgery to a scientific status, as well as application of his principles.

Keywords: General surgery, barber surgeons, operative surgical procedures
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Until the 18th century, surgery was practiced mostly by the barber-surgeons. They were unskilled practitioners, who learned through apprenticeship and observation, and performing minor procedures, such as bloodletting and teeth extractions, and treating wounds. [1] Due to lack of adequate anesthetic and antiseptic supports, surgery was considered brutal and dangerous, and it was considered “a lesser profession” compared to classical medicine. [2 p1]

Despite these difficulties, the Middle Ages was characterized by surgical pioneers, who contributed to raising the ethical, scientific and technical status of the surgery: Andreas Vesalius (1514-1564) and Ambroise Paré (1510-1590). Until authorization to perform dissections on human corpses was issued, knowledge of anatomy was based on Greek and Roman misconceptions based on the animals' dissection. Vesalius' studies on human anatomy, collected in his main work "De Humani Corporis Fabrica Libri Septem", [3] definitely changed medicine. He first suggested the hands-on approach of human dissection by physicians and surgeons.

French army surgeon Ambroise Paré (1510-1590) also influenced surgery's development, making wounds cauterization less dangerous and painful. Indeed, using a mixture of turpentine, rose oil and egg yolk, he developed a technique to treat gunshot wounds, which was alternative to the previous cauterizing technique based on use of boiling oil. Moreover, Paré reduced the bleeding risk, reintroducing the ligating of blood vessels during the amputations. [4]

Here, I want to point out a further important, but little known figure, underlying his contribution to surgery both at technical and methodological level: Marcus Aurelius Severinus (1580, Tarsia, Italy - 1656, Naples, Italy).

After some intention of studying law, Severinus given the preference to medicine, and on February 1606, he obtained the bachelor in "Alma Philosophia e Sacra Medicina" at the Collegium Medicorum of Salerno (Italy), one of the most ancient and renowned Collegium in Europe. [5] Disregarding Aristotle, he was follower of the atomist Democritus, and corresponded with Tommaso Campanella and William Harvey. A renowned and distinguished surgeon and anatomist, Severinus was author of an important scientific book titled "Zootomia democritea", which received worldwide recognition as the first comparative anatomy book.

Trained by the anatomist Giulio Iasolino (1538-1622), Severinus was accomplished surgeon and anatomist, and he carried out his main surgical work at the "Ospedale degli Incurabili" in Naples. He had a brilliant academic career, and he was professor of anatomy, and later filled the chair of surgery in University of Naples. [5]

Severinus' contribution to surgery was twofold: on a methodological and technical level. He was very critical about surgery and surgeons of that time, which were discredited in the 17th century. Severinus attributed this discredit to the separation of medicine and surgery, and he strongly criticized the surgeons' detachment from the study of the classical medicine. Severinus' opinion was that the surgeons were negligents toward the study of the ancient Greek and Roman medicine. Due to lack of anatomy and physiology's knowledge, the surgeons' activity was limited, and the use of medicaments were preferred to surgical interventions. [6]

Severinus was one of the first physicians to theorize and practice an active surgery he called "del medicar crudo" ("to medicate crudely"). He performed the newest surgical techniques, and professed an early intervening surgery when the pathological process didn't show signs of spontaneous resolution. He insisted that "active

Herculean” surgery was less dangerous and brought more glory than the haphazard, effeminate and compromising surgery. [6]

According with his idea of an innovative surgery, he showed boldness in his surgical practice, as reported in some extracts of his works “De recondita abscessum natura” and “De efficaci Medicina”. [5] In these books, Severinus illustrated and discussed several cases of ulcers, plagues, tumors, ernia, and their treatment. He described his innovative surgical technique to treating an inguinal hernia, using “a large needle threaded with very strong new silk... a little ivory or bone plate, rectangular in shape and about one inch in thickness”.

A further interesting example of Severinus’ surgical practice is represented by the trephining he performed to treat a Spanish nobleman, who suffered from an intolerable headache. After the trephining, Severinus found a “fungous excrescences”, and destroyed it resolving the symptomatology, and likely performing on of the first successful excision of brain tumor. [7 p62]

However, Severinus’ boldness wasn’t fully appreciated at that time, and although farsighted, his idea was unsuccessful. It was obstructed by pain, bleeding and infection risks related to surgery. In “De efficaci medicina”, writing about the surgical treatment of the cutaneous ulcers in 1625, performed by cutting the varices surrounding the ulcers (although it wasn’t recommended), Severinus stated that: “I first performed this surgical operation in Naples. Nevertheless, I was challenged from other doctors, which protested with the governors of hospital, because they believed that it (the surgical operation) could expose the patients to a serious risk.” [7 p125]

At that time, surgeons were more careful to avoid pain and further risks to the patients, and they preferred a waiting attitude to a premature surgical approach. Those were the reasons why the Severinus’ attempt to reform surgery failed.

Only about two hundred and fifty years later, the discoveries of anesthesia [8] and the infectious prophylaxis [9] changed the future of surgery and whole medicine. The scientific status of surgery was raised and the idea of an early and resolute surgery stated by Severinus was accomplished.

Rezime

Operativne hirurške procedure su doživele jedan pokušaj reformacije u XVII veku, od strane italijanskog hirurga i anatora Marka Aurelija Severina (1580-1656). Njegov doprinos hirurgiji obuhvatao je dva nivoa: metodološki i tehnički. On je bio jedan od prvih hirurga koji je teorijski razmatrao i praktično primenjivao aktivnu hirurgiju, koju je sam nazivao “del medicar crudo” (lečenje na grubi način). Primenjivao je najsavremenije hirurške tehnike, pri čemu je osmislio koncept rane hirurške intervencije, pre nego što bi patološki proces pokazao znake spontanog razrešenja. Shodno tome, smelo je pristupao hirurškoj praksi, što je i demonstrirao u svojim delima “De recondita abscessum natura” i “De efficaci Medicina”. Međutim, njegove ideje nisu naišle na prihvatanje tadašnjih medicinskih krugova. U to vreme

su hirurzi nastojali da izbegnu bol i dalje rizike za pacijenta i radije su odabirali pasivniji pristup. Njegove ideje su naišle na prihvatanje nekih 250 godina kasnije, kada su proboji na polju anestezije i infektivne profilakse omogućile da se hirurgija uzdigne na nivo nauke, što je i omogućilo da se njegovi principi primene u praksi.

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