A Man Called Lister

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Abstract:

Lister has gone down in history as the father of antiseptic surgery. Following Pasteur's ideas, Lister looked for a chemical substance with which to annihilate germs. After several tests he arrived at carbolic acid (today called phenol), a compound extracted from creosote that at that time was used to prevent the rotting of railway sleepers. In 1865 and after some dubious beginnings, he for the first time managed to heal the open fracture in the leg of a child hit by a car without infection.

More than a century and a half later, the methods and substances have changed. From today's perspective, such generous use of the corrosive and toxic phenol, which today is handled with special care in laboratories, may be surprising. But today we are left with Lister's revolutionary idea that drew the line between ancient and modern surgery.

Keywords: medical history, Galenism, Joseph Lister, biography.

In summary, that is all for his work in science and medicine. But let us go further.
There is a book by the author Lindsay Fitzharris, a medical historian who rescues the English surgeon in his full dimension; the man, his character and the firmness of his spirit. A book that is generous in detail and also a kind of tribute to this surgeon, a man with a restless mind, who is described as: "Living immersed in his thoughts, modest, without authoritarianism, simple..." (Fitzharris, 2018). The book is called: *De Matasanos a Cirujanos*. Available on paper and digital. The latter, on his website www.librosmaravillosos.com.

In its first pages, we discover graphic details that seem to be taken from a horror story: “Only in amputations did the surgeon's knife penetrate deeply into the patient's body. Surviving the operation was one thing; a full recovery, quite another.” (Fitzharris, 2018). In the middle of the 19th century, the chances of dying from septicemia or post-operative infections were very high. Until then, surgeons never intervened in the thoracic or abdominal cavities. They went no further. When it was extremely urgent, an arm or a leg was amputated, a matter that fell to the military surgeons, who: "... far from being crazy with the scalpel..." (Lindemann, 2001); were well aware of the danger and naturally avoided that. It is probable that only 25% of the patients survived the amputation process of a limb due to the subsequent dangers (Lindemann, 2001).

Already practicing as a surgeon, Dr. Lister could not get out of his mind the topic that caused him unceasing concern and made him wonder if he would ever find the solution: the tremendous problem of hospital infection. The fate of his star, the one that marks the destiny of the men who write history, put him in contact with the work carried out by the French scientist Louis Pasteur. The Dr. studied and understood that the infection of wounds was not due to "floating miasmas" or "bad air". He embraced the theory of environmental germs and that the origin of hospital infections was not the environment as such, but its load of microbial life.

Lister took phenic acid or carbolic acid (known as phenol), a derivative of coal tar, as an antiseptic agent and performed his first antiseptic operation in March 1865. At first it was difficult and the surgeries were unsuccessful. However, August 1865 soon arrives and he operates on a child called James Greenles, who was run over and suffered the fracture of his left leg. The scrupulous doctor washed the wound with a solution of carbolic acid and linseed oil, covering it with bandages to prevent evaporation (Sutcliffe, & Duin, 1993). The bone and wound healed perfectly and six weeks later, the boy walked out of the hospital.

Despite the reservations of a part of the medical community who mocked and criticized him, Dr. Británico persevered and stood his ground; and he continued to apply his antiseptic principle to heal abscesses and tumors. As of 1865, medicine was divided into Prelisterian and Postlisterian. However, it is necessary to say that solutions had already been sought before. Nitrous oxide, for example, had been recognized as a pain reliever ever since the chemist Joseph Priestley synthesized it in 1772 but "laughing gas" was not commonly used in surgery because its results were not reliable. Ether had been discovered in 1275, but its stupefying effects were later synthesized in 1540 under the authorship of the German chemist and botanist Valerius Cordus. The mythical and famous Paracelsus also experimented with ether on chickens and observed that when the birds drank the liquid, they fell into a prolonged sleep and woke up unscathed. Nevertheless, several hundred years passed before it was tested in humans. In the 19th century, the Boston dentist, William T. G. Morton, became famous in September 1846 for having used ether (or ethyl ether) on a patient while he was extracting a tooth (later the ether would be replaced by chloroform).

In the following years, Lister's fame increased, especially when he took charge of Queen Victoria's illness. She became seriously ill with an abscess in her armpit that had grown to the size of an orange. The doctor operated on the Queen and at first, the postoperative period was not encouraging... Lister saw that the wound had pus. A dark cloud overshadowed the surgeon's mood, but it was then that an idea came to mind. He looked at the machine that he carried with him next to his suitcase; a nebulizer of his own invention, which spewed carbolic acid vapor. He
took the hose out, (a rubber tube in fact) and left it submerged in the disinfectant. He used it the next morning to drain the pus and with great joy he observed that afterwards "the ooze was a clear liquid". The dark clouds had dissipated and the Queen was safe.

Pasteur was honored on his seventieth anniversary at a congress in 1892. Dr. Lister was one of the key speakers and afterwards, they embraced each other. If perhaps the frail health of the French scientist had not made his speech so difficult, surely he would have been able to return those same feelings towards the British man.

Lister, a great instructor and inspiring teacher, unique and meticulous, left a lasting legacy. A small yet devoted group of his students contributed to this—the nucleus of the Listerians—the dissemination of his ideas, whose essence is asepsis in surgical practice.

Lister died peacefully on a cold winter morning in February 1912. His death occurred just a few years before the start of the Great War; the end of the belle époque, a time when the Galenic pause seemed to wake up and run.

References


