In 1901, physician William Henry Walling published the article, “Some of The Uses of Electricity in Gynecology,” in the January issue of the *American Gynecological and Obstetrical Journal*. Walling was a practicing gynecologist who studied electro-therapeutics, or the use of electricity in medicine for the treatment of disease, which was an emerging topic during the late 1800s. Walling stated that proper administration of electrical current to a woman’s **vagina**[6], **uterus**[6], bladder, or rectum could be therapeutic for gynecological diseases. He supplies scientific explanations for some of his claims, but not for all. The article provides readers of the twenty-first century with context and historical examples of electrotherapy in women’s health, of what physicians understood about female reproductive anatomy, and of the standard of care in gynecology during the turn of the twentieth century.

At the end of the 1800s, the increasing availability of electricity changed the way people lived and received medical care in the US. At that time, practical uses of electricity in appliances and machines became more popular, and many physicians began using electricity in their medical practices. Before, throughout the nineteenth century, physicians utilized hand cranked electrotherapy machines to treat numerous ailments, though it is unknown how effective they were. In the 1880s, New York City began installing electrical systems for homes and, by 1925, over half of the people in the US had electricity access in their homes.

Walling was born in Smithville, New York, in 1836. He served for the Union hospital service in the US Civil War during the 1860s and received a Congressional Medal of Honor for his service. Walling received his medical degree from Medico-Chirurgical College in Philadelphia, Pennsylvania, in 1889. He later worked as a physician and professor of gynecology at Eastern College in Philadelphia, Pennsylvania, as well as a professor of electrotherapeutics at his alma mater, Medico-Chirurgical College. While living in Philadelphia, Walling also served as the editor for the *Philadelphia Medical Times and Register*, a bi-weekly medical journal. According to his obituary in the *Journal of The Medical Society of New Jersey*, Walling was a prominent figure in medicine at the time and was a member of the *American Medical Association*[7], the Atlantic County Medical Society, and the Medical Society of New Jersey. Walling studied a variety of medical issues that he considered progressive, including sexual health and wellness, electrotherapy, obstetrics and gynecology, urology, and malignant diseases of the rectum. He also believed that over-excitation and stimulation of all kinds, including masturbation, could cause insanity, memory loss, and loss of intelligence.

Walling’s article in the *American Gynecological and Obstetrical Journal* in 1901 discusses uses of electrical current for treating gynecological issues, a subject he studied and published literature on. Walling’s article features detailed gynecological treatments, including electrical current and electrodes, or a conductor through which electrical current flows. He never mentions the shape or appearance of the electrodes, but mentions that when used internally, the physician must keep them in constant motion to prevent adhering to the reproductive tract. Walling opens with a brief introduction, and then specifically addresses the use of electricity in gynecology. He included multiple subsections, which he titled as **Amenorrhea**, or absence of menstrual period, **Dysmenorrhea**, or menstrual cramping and pain, **Ovarian Neuralgia**, **Delayed Menstruation**, **Erosions**, **Metritis** and **Endometritis**, **Pyosalpinx**, or fluid inside the **falloplian tubes**[8] where the **egg**[9] travels from the **ovary**[10] to the **uterus**[6], **Subinvolution with Hemorrhage**, or failure for the **uterus**[6] to return to its original size prior to **pregnancy**[11], and **Fibroid Tumors**.

In the introduction, Walling asserts that electricity has more practical uses in gynecology than in some other areas of medicine. That is because the tissue surfaces within the female reproductive tract have less resistance than human skin, according to Walling. He explains how using different metal wires could cause more or less intense effects. Walling warns that if too strong of a current is used or applied for too long, an eschar, or burn-like wound will form, which Walling states could prove to be troublesome. Walling states that for a physician to stop any bleeding, or cauterize, a woman’s uterine canal, 25 mA of current must be used for every square millimeter of electrode surface. Cauterizing produces a burn that stops bleeding. However, Walling’s distinction between a problematic treatment-caused wound and a safe cauterization is unclear.

Throughout the article, Walling refers to faradic and galvanic currents in referencing his approach to electrical treatment of gynecological concerns. A faradic current is an alternating, asymmetric current that stimulates muscles. A galvanic current is a...
physicians are unable to remove fibroids which do not bleed with electrical current, because those fibroids tend to be hard and reduce its size in the same way physicians apply electrical current to a woman's
vagina. Walling claims that using electrical current can create strong uterine contractions to remedy the over-relaxation of muscle fibers in the uterus, and hemorrhage is profuse bleeding typically originating from a blood vessel. Walling claims that using electrical current can create strong uterine contractions to remedy the over-relaxation of muscle fibers in the uterus. He later mentions that physicians can stop a woman from hemorrhaging by applying a galvanic electrical current directly into her uterus via her cervix to stop the source of the bleeding.

Lastly, Walling discusses electro-therapeutics for treating uterine Fibroid Tumors. He claims that fibroids which bleed are easier to treat than those fibroids which do not bleed. Physicians can apply electrical current to a woman's fibroid to stop the bleeding and reduce its size in the same way physicians apply electrical current to a woman's uterus to stop a hemorrhage. However, physicians are unable to remove fibroids which do not bleed with electrical current, because those fibroids tend to be hard and...
bulky.

Though the study of electrotherapeutics was popular in many fields of medicine during the 1800s and early 1900s, the fad of electrotherapeutics dissipated and Walling’s practices were never adopted into lasting, standard gynecological practice. In the twenty-first century, gynecological practices and standard of care are very different than those at the time of Walling’s procedures, and consider factors like patient comfort and safety. Informed consent and techniques used by Walling might now be considered questionable.

Sources


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