



Fibroids through the ages: a historical journey and future prospects in myomectomy

Omer Lutfi Tapisiz[^], Sadiman Kiykac Altinbas[^]

Obstetrics and Gynecology Clinic, Gynovart Women's Health, Ankara, Turkey

Correspondence to: Prof. Omer Lutfi Tapisiz, MD, PhD. Ob/Gyn & Med Pharmacol, Founder of Gynovart WH, Obstetrics and Gynecology Clinic, Gynovart Women's Health, Next Level Office Tower A Block, No. 69, Kizilirmak Mahallesi, 06520 Ankara, Turkey. Email: omertapisiz@yahoo.com.tr.

Received: 30 September 2023; Accepted: 26 July 2024; Published online: 03 September 2024.

doi: 10.21037/gpm-23-32

View this article at: <https://dx.doi.org/10.21037/gpm-23-32>

Uterine leiomyomas, commonly referred to as fibroids, constitute the predominant pelvic neoplasm in the female population and have a longstanding historical presence that spans antiquity. Archaeological findings have uncovered calcified fibroids within the remains of ancient women, including those from prehistoric caves and Egyptian mummies (1). The awareness of these uterine lesions can be traced back to ancient Greece, with Hippocrates (460–375 B.C.), practicing on the island of Kos in the Aegean, designating them as “womb stones”, and Galen, a prominent figure in the second century A.D., characterizing them as “scleromas” (2). The nomenclature “fibroid” was later introduced by Rokitsky in 1860 and Klob in 1863, with Virchow, the distinguished German pathologist, elucidating their smooth muscle origin and coining the term “myoma” (3).

The earliest documented myomectomy in the scientific literature emerged in 1845 in the *American Journal of Medical Science*, performed by Dr. Washington Atlee in Pennsylvania (4). Atlee, a professor specializing in medical chemistry, demonstrated a comprehensive surgical skill set that included abdominal surgery. In an era devoid of general anesthesia, Atlee conducted an extensive midline subumbilical incision, revealing an unexpectedly large 18-inch pedunculated fibroid. He secured the pedicle with three wax silk sutures and closed the abdomen with 15 through-and-through sutures, resulting in the patient's survival.

In 1898, Adam Alexander of Liverpool presented 11 cases of abdominal myomectomy to the British Gynaecological

Society of London (5). Despite claiming to remove up to 25 tumors from a single uterus, Alexander's approach, tailored to more complex cases involving pedunculated leiomyomas, was met with skepticism from an audience favoring the perceived simplicity and safety of hysterectomy. Alexander's contributions remained relatively overlooked until 1922 when Bonney revisited the literature.

Victor Bonney, a renowned surgeon, advocated for conservative myoma surgery and the preservation of ovarian tissue during ovarian cystectomy (5). During the interwar years, he developed the Bonney myomectomy clamp, which was employed for hemorrhage control during myomectomy by clamping uterine vessels and facilitating uterine manipulation as needed (*Figure 1*). By 1930, Bonney reported 403 consecutive myomectomies with low mortality and morbidity.

A noteworthy event occurred in 1973 when a colossal myoma, weighing 45.5 kg, was successfully removed, with the patient's survival contingent upon draining approximately 1,500 mL of blood from the vascular network. An even larger myoma, weighing 63 kg, was excised in the United States in 1888, though regrettably, the patient's outcome was unfavorable (2).

Advancements in minimally invasive techniques have introduced successful methods for removing submucous myomas through hysteroscopic surgery and intramural and subserous myomas through laparoscopic myomectomy. Concurrently, innovative minimally invasive approaches, such as uterine artery embolization and high-intensity focused ultrasound guided by magnetic resonance imaging,

[^] ORCID: Omer Lutfi Tapisiz, 0000-0002-7128-8086; Sadiman Kiykac Altinbas, 0000-0003-2773-9641.



Figure 1 Bonney's myomectomy clamp. From Alibaba.com, Public Domain. Accessed July 23, 2024 at https://www.alibaba.com/product-detail/Bonney-s-Myomectomy-Hysterectomy-Clamp-27cm_62003250139.html.

have emerged as contemporary modalities for myoma treatment.

To further propel the future progress of myomectomy, ongoing research should focus on refining minimally invasive techniques, exploring targeted pharmacological interventions, and leveraging advancements in imaging technologies for precise preoperative planning. Molecular and genetic studies can unravel the underlying mechanisms of fibroid development, paving the way for personalized therapeutic strategies. Collaborative efforts across disciplines, including gynecology, pathology, and molecular biology, are crucial for unraveling the intricate etiology of fibroids and developing tailored treatment approaches.

In conclusion, historical records describe instances of women passing structures resembling avian eggs vaginally, often analogized to the eggs of thrushes or wrens. Throughout the epochs, fibroids persist as a significant health concern for women. Recognizing the enduring nature of uterine myomas in *Homo Sapiens Sapiens*, it is expected that ongoing research will yield novel methodologies for their removal or obliteration as long as humanity endures. Future strides in myomectomy should prioritize personalized, minimally invasive approaches, leveraging interdisciplinary research for a comprehensive understanding of fibroid pathogenesis and targeted therapeutic innovations.

Acknowledgments

Funding: None.

Footnote

Provenance and Peer Review: This article was commissioned by the editorial office, *Gynecology and Pelvic Medicine* for the series "Uterine Fibroids: Various Aspects with Current Perspectives". The article has undergone external peer review.

Peer Review File: Available at <https://gpm.amegroups.com/article/view/10.21037/gpm-23-32/prf>

Conflicts of Interest: Both authors have completed the ICMJE uniform disclosure form (available at <https://gpm.amegroups.com/article/view/10.21037/gpm-23-32/coif>). The series "Uterine Fibroids: Various Aspects with Current Perspectives" was commissioned by the editorial office without any funding or sponsorship. O.L.T. served as the unpaid Guest Editor of the series and serves as an unpaid editorial board member of *Gynecology and Pelvic Medicine* from December 2022 to November 2024. S.K.A. served as the unpaid Guest Editor of the series. The authors have no other conflicts of interest to declare.

Ethical Statement: The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

Open Access Statement: This is an Open Access article distributed in accordance with the Creative Commons Attribution-NonCommercial-NoDerivs 4.0 International License (CC BY-NC-ND 4.0), which permits the non-commercial replication and distribution of the article with the strict proviso that no changes or edits are made and the original work is properly cited (including links to both the formal publication through the relevant DOI and the license). See: <https://creativecommons.org/licenses/by-nc-nd/4.0/>.

References

1. Segars JH, Al-Hendy A. Uterine Leiomyoma: New Perspectives on an Old Disease. *Semin Reprod Med* 2017;35:471-2.
2. Sutton CJ. Historical curiosities in the surgical management of myomas. *J Am Assoc Gynecol Laparosc* 2004;11:4-7.
3. Bozini N, Baracat EC. The history of myomectomy at the

- Medical School of University of São Paulo. Clinics (Sao Paulo) 2007;62:209-10.
4. Atlee WL. Removal of fibrous tumor of the uterus. Am J

- Med Sci 1845;11:309-35.
5. Chamberlain G. The master of myomectomy. J R Soc Med 2003;96:302-4.

doi: 10.21037/gpm-23-32

Cite this article as: Tapisiz OL, Kiykac Altinbas S. Fibroids through the ages: a historical journey and future prospects in myomectomy. *Gynecol Pelvic Med* 2024;7:31.