GAVIN PUBLISHERS

Journal of Surgery

Panagiota K and Dimitrios F. J Surg: JSUR-1103.

DOI: 10.29011/2575-9760. 001103

Editorial

Sutures in Antiquity

Panagiota Kripouri*, Dimitrios Filippou

Department of Anatomy and Surgical Anatomy, Medical School, National and Kapodistrian University of Athens, Athens, Greece

***Corresponding author:** Kripouri Panagiota, Department of Anatomy and Surgical Anatomy, Medical School, National and Kapodistrian University of Athens, Athens, Greece. Tel: +306979089972; Email: p_kripouri@yahoo.com

Citation: Kripouri P and Filippou D (2018) Sutures in Antiquity. J Surg: JSUR-1103. DOI: 10.29011/2575-9760. 001103

Received Date: 26 January, 2018; **Accepted Date:** 26 January, 2018; **Published Date:** 02 February, 2018

Editorial

General surgery is a vast field; every organ causes different symptoms, has a different pathology and requires a different approach. Not surprisingly, every operation has completely different steps the surgeon must follow and in the end even the surgery of a specific organ or of a certain disease can vary a lot in steps and technique given the materials available, the surgeon's experience and the complications and anatomical variations of the patient on the table.

However, there is a step that is very much alike in almost every surgery and this is the last step -surgical wound closure. We are presenting the lesser known history about how the ancient doctors did it.

In this editorial article we will try to examine a short history of the last step of almost every operation which we consider to be both fascinating and educational. We will also present information about the closure of traumatic skin wounds in antiquity. Given that organized operation rooms in the way we perceive them were not available in antiquity we will make an attempt to understand how ancient surgeons finished their surgeries and treated the wounded making surgery step by step what it is today.

Ants for Staplers?

In ancient Egypt most doctors did not specialized, and the majority practiced general medicine. However, there are indications that surgery must have been a different field. In Edwin Smith papyrus (16th century BC) there is a special mention to surgery and especially the closure of the skin wound; it seems that ancient Egyptian surgeons used ants as a type of staples. Giant ants would hold the wound together with their claws and then the surgeon of the time would separate the ant's body, leaving the claws in site. This would allow the skin to heal protecting the patient from possible infections [1].

Ancient Indians were also aware of this use of insects - and they even used them as absorbable sutures for the intestines. This technique though it seems primitive was around for more than 33 centuries [2] and it seems that it was still practiced when Greek Revolution for Independence took place [3]. Apart from insects, ancient civilizations experimented with many materials; Indians also tried to suture the skin with horsehair, leather, tree barks while the Romans (Celsus) preferred threads. As for Galen he introduced catgut suture [4]-which was a common type of suture until recently.

Celsus preferred wool or silk soft thread and he cleaned the wound with vinegar, wine or cold water [5] (a primitive method for cleaning the wound described by Hippocrates [6]). He separated fresh wounds from chronic ulcers and suggested suturing for the former, and he did describe a kind of metal clips [7]. Celsus did suture the large bowel although he considered perforations to the small irreversible [8]. He also provided specific instructions on how to close the abdominal wall. He described a two-needle thread technique which required both hands to suture and good synchronization of the hands. Galen described two techniques for closing the abdomen with the use of a single-needle thread. The first one requires the surgeon to suture all layers together while in the second one the peritoneum is also sutured. Galen supports the second method because it seems to respect the peritoneum [9].

Conclusion

Surgery has evolved dramatically over the years. Back in the past the surgeon's improvisation abilities were in some cases astonishing [10]. We believe that modern surgeons can only learn from their skillful ancestors and use this information to conduct modern sophisticated research on ancient ideas [11].

References

1. Schiappa J, Van Hee R (2012) From ants to staples: history and ideas concerning suturing techniques. Acta Chir Belg 112: 395-402.

2. Haddad FS (2010) Suturing methods and materials with special emphasis on the jaws of giant ants (an old-new surgical instrument). J Med Liban 58: 53-56.

3. Iavazzo C, Papakiritsis M, Karamanou M, Ntziora F, Androutsos G (2013) Ant mandibles as staples in the era of Greek patriot Ioannis Makriyannis (1797-1864). Acta Med Hist Adriat 11: 359-364.

4. GOLDENBERG IS (1959) Catgut, silk, and silver-The story of surgical sutures 46: 908-912.

5. Cope Z (1958) The treatment of wounds through the ages. Med Hist 2: 163-174.

6. Rachel Hajar (2012) The Air of History: Early Medicine to Galen (Part I) Heart Views 13: 120-128.

7. D Mackenzie (1973) The history of sutures. Med Hist 17: 158-168.

8. Hardy KJ (1990) A view of the development of intestinal suture. Part I. From legend to practice. Australian and New Zealand Journal of Surgery 60: 299-304.

9. Papavramidou N, Christopoulou-Aletra H (2009) The ancient technique of “gastrorrhaphy”. J Gastrointest Surg 13: 1345-1350.

10. Muysoms FE, Antoniou SA, Bury K, Campanelli G, Conze J, et al. (2015) European Hernia Society.Hernia Society guidelines on the closure of abdominal wall incisions. Hernia 19: 1-24.

11. Yedke SR, Raut SY, Jangde CR (2013) Experimental evaluation of horse hair as a nonabsorbable monofilament suture, J Ayurveda Integr Med 4: 206-210.