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DARWINISM OF CHOLECYSTECTOMY; BIBLICAL ERA TO PRESENT-DAY EVIDENCE-BASED CHOLECYSTECTOMY.

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Abstract
Today's era of evidence-based medicine has an inclination towards minimally invasive surgery. Cholecystectomy is one of the first surgeries to become the treatment of choice by Laparoscopy for gallbladder diseases. However, many clinicians have made efforts to bring it to the present-day standard. To the extent that Erlich Muhe was disregarded by surgical society to perform the first Laparoscopic Cholecystectomy. Nevertheless, it was acknowledged later, that Laparoscopic Cholecystectomy is the state- of-the-art surgical approach for Benign Gallbladder disorders. This article pays homage to all the clinicians involved in making Laparoscopic Cholecystectomy a reality.
Categories: General Surgery

Keywords: laparoscopic cholecystectomy (lc), first surgery, present day evidence based, pioneers, evolution, history

Introduction And Background

Laparoscopic Cholecystectomy is the recommended modality of surgical approach for various gallbladder diseases [1, 2]. Nevertheless, Cholecystectomy has evolved from intra-operative incidental detection of gallstone to performing Open and Minimal access Cholecystectomy.

The history of its Darwinism is monumental from 500 BC [3] to present-day evidence-based surgery.

The available scientific knowledge is enlightened by many clinicians from around the world. The work of wisdom by Stal Pert Von Der Wiel, Antonio Benevieni, Alexander Trallianus, John Stough Bobb, Fabricius Hildanus, Fabricius, Jean- Louis Petit, Marion Simms, Theodor Kocher, Carl Johann August Langenbuch, Erich Mühe, and Philippe Mouret has advanced gallbladder surgery to present-day distinction [4,5,6,7].

Review

Biliary Calculi

The initial account of biliary calculi was reported in Greece, found in the skeleton approximately belonging to 1600-1500 BC [8]. And to 1085-945 BC in the era of the twenty-first Egyptian Dynasty, in the mummified bodies [9,10]. The pathological description of gallstone as concretion within the bile duct was advised by BC Alexander Trallianus in 525-605 [3,8]. However, the introductory literature on gallstones was published by Antonio Benevieni, a Florentine
pathologist in the year 1420, in a post-mortem of a female after complaints of pain in the abdomen [3,11,12]. Vesalius (1514- 1564) identified gallstone in the Gallbladder and also identified hemoperitoneum coming from an abscess that had eroded the portal vein in a patient [10,13]. Marcellus Donatus in 1586 published about the identification of stones in vomitus and faeces which relates to gall stones [8].

Surgical Encounters

Early gallstone treatment is accredited to Fabricius Hildanus. Fabricius was the first surgeon to remove gall stone from the human body in 1618 [8]. In 1676 Joenisius, a physician removed a gallstone from a spontaneous biliary fistula, and so he has been credited with the initial work for cholecystotomy [9,10]. Stal Pert Von Der Wiel incidentally detected biliary calculi during an exploratory laparotomy for suspected peritonitis in the year 1687 [10]. Jean- Louis Petit was the foremost to surgically operate on the Gallbladder in 1734. Petit's concept was based on the adhesion of the GB wall with the anterior abdominal wall. He advocated waiting till the formation of adhesions and later incising the abdominal wall over the adherent part and extracting the calculi [3,10,14]. Finally, Marion Simms is acknowledged to designed cholecystostomy; he did the surgery in 1878 for biliary calculi and obstructive jaundice [15]. Unfortunately, the patient did not survive the surgery. Nevertheless, in the same year, in June, Theodor Kocher performed a
successful cholecystostomy [3,15].

Cholecystectomy

Zambecarri and Teckoff performed Cholecystectomy on animals in the year 1630 and 1667, respectively and proved survival is possible after removing the gall bladder [15,16]. Ephraim McDowell (1780- 1830) posted an ovarian cyst surgery in 1809 and landed up removing gallstones. He is acknowledged amongst the first surgeons to remove gallstone and formed the platform for Cholecystectomy [3]. Similarly, John S. Bobbs operated on a suspected ovarian cyst; on opening the sac, he found multiple Cholelithiasis. He extracted the stones, and the cholecystotomy was closed [14,17]. Thudichum in 1859 changed the criteria of petit, advocating not to wait for adhesion formation but instead explore early. However, the surgery was still
planned in two steps. Step one included exploring the abdomen and suturing the Gallbladder to the abdominal wall, and in the second step, the gallstones were removed [3,12].
Carl Johann August Langenbuch executed the first open Cholecystectomy on the 15th of July 1882 [10,18,19,20]. He believed that cholecystostomy was not a permanent solution and advised excision of the Gallbladder to cure the disease [3,14]. Langenbuch and his colleagues believed that in a case of Cholelithiasis, Gallbladder should be excised; Cholecystostomy and removing the stones would lead to recurrence [13]. Langenbuch also advocated choledochotomy and the removal of stones in a case of choledocholithiasis. However, he did not perform the first choledochotomy [14].

Laparoscopic Cholecystectomy

The earliest records of Laparoscopy belong to the biblical era. The vantage therapeutic Galenic custom gleaned the notion of preserving homeostasis, the stability between synthesis and expulsion of the by-products. With the Ideology, that disparity in synthesis and expulsion leads to illness. Therefore, used laxatives and a controlled diet to maintain equilibrium. Furthermore, "bad humours"

in the abdomen were drained in cicara [25 BC-AD 50] by the intervention of trocar insertion practised by Ezekiel and Celsus [21,22].

Erich Mühe should be acknowledged for performing the first laparoscopic Cholecystectomy(LC) in September 1985 [9,23,24]. However, on presenting this operation to the German surgical meeting, The Surgical Society disapproved Mühe; nevertheless, acknowledged him in 1992 with their prominent award, the German Surgical Society Anniversary Award [25]. Philippe Mouret from Lyon, France, is also acknowledged in a few medical pieces of literature to have performed the first laparoscopic cholecystectomy [3,19]. Laparoscopic adhesiolysis was planned for a lady with non-specific abdominal pain; concomitantly, the patient had cholelithiasis. Laparoscopic cholecystectomy was also planned if adhesiolysis turned successful. He performed adhesiolysis and went on to complete a successful laparoscopic cholecystectomy [23]. The next day patient was comfortable, with minimal pain, and mobilised. Mouret was enlightened by
the advantage of laparoscopic surgery [23].

Sr No	Surgeon	Country	Month and Year
1	Dubois	France	April, 1988
2	Berci	Australia	September 1988
3	Perissat	France	November 1988
4	Cuschieri	United Kingdom	February, 1989

TABLE 1: Other pioneers in laparoscopic cholecystectomy [25] include:

In 1990 the Society of American Gastrointestinal Surgeons [SAGES] Convention acknowledged the work of the clinicians mentioned above along with Philippe Mouret; however, Mühe's name was missing. Nevertheless, nine years later, SAGES acknowledged Muhe as the pioneer of laparoscopic cholecystectomy and invited Mühe for a presentation. "The First Laparoscopic Cholecystectomy" was the lecture's title [23,25].

After the early laparoscopic cholecystectomy, the procedure started getting acceptance over open surgery and a substantial number of publications proved it superior to conventional surgery [26,27,28]. The laparoscopic approach for cholecystectomy is considered to be the surgery of choice for indicated Gallbladder Surgery since the early 90s [29-38]. Soper NJ and colleagues in 1992 concluded that laparoscopic cholecystectomy should be the recommended modality for the treatment of patients with symptomatic cholelithiasis [29]. Despite the fact that, of all Laparoscopic Cholecystectomy, 1-19% conversion to open surgery is inevitable in view of patient safety [31,38]. National Institutes of Health [NIH] Consensus Development Conference] advocated LC as a dependable and practical approach for symptomatic gallbladder diseases "[39].

Conclusions

The evolution of Laparoscopic Cholecystectomy has crossed multiple milestones from time immemorial to reach the present standards. From the initial identification of gallstone, understanding the disease; the dilemma on whether the gallbladder can be excised? To the present day Laparoscopic surgery. It has taken substantial research to provide evidence to support Laparoscopic surgery over conventional surgery. Society of American Gastrointestinal Surgeons [SAGES] and National Institutes of Health [NIH] Consensus have recommended Laparoscopy over conventional surgery. Undeniably, laparoscopic cholecystectomy is
the present-day evidence-based procedure of choice for benign gallbladder disorder.

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