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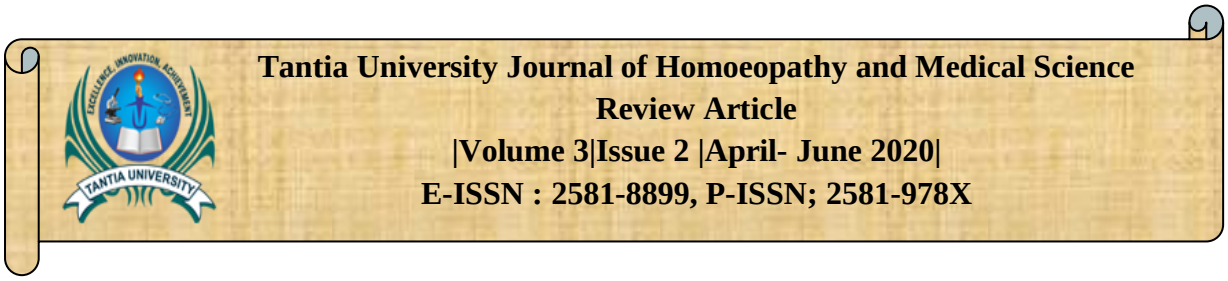

History of Neprolithiasis -A Meta Analytical Study

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Abstract

Roots of all diseases go back to the Ancient, Egyptian and Masopatania. The kidney stone disease has been started with the beginning of civilization. In 1901 bladder stone were found in mummy, so American, Egypt was the victims of nephrolithiasis and treatment of kidney stone disease were mentioned in Ancient Egyptean literature since 1500BC. As the days passed, kidney stone surgery got advanced and better with minimal harm. In 276 BC Ammonius of Alexadria for the first time suggested crushing of stones to facilitate its removal. 1976 PCNL was described for the 1st time as a procedure of choice for the removal of urinary stone larger than 2cm and also located at lower pole of kidney.1997 PCNL was introduced by Bellman which consist of without Nephroastomy drainage at end of procedure. **Aim-** To explore the history of evolution of treatment of renal stone which will help to adopt proper therapeutic technique.

Key word- PCNL, Nephrilithiasis, lithotomist, lithotones

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INTRODUCTION

Renal stone or nephrolithiasis are common problem worldwide. Kidney stone disease is a crystal concretion formed usually within the kidneys. It is an increasing urological disorder of human health. It has been associated with an increased risk of end-stage renal failure. The etiology of kidney stone is multi factorial.

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The most common type of kidney stone is calcium oxalate, mechanism of stone formation is a complex process which results from several physicochemical events including super saturation, nucleation, growth, aggregation, and retention of urinary stone constituents within tubule.

The Kidney stone disease has been started with the beginning of civilizations. Smith an English archaeologist in 1901, got a bladder stone in mummy of 4500 to 5000 year old El amrah, Egypt. So people of american Egypt was the victims of naphrolothiasis, that is hour the treatment of KSD (Kidney stone Disease) were mentioned in ancient Egyptean literature since 1500 BC[1,2]. In 3200 to 1200 BC there was treatment of KSD in masopotemia which was revealed from the literature[1]. In India around 600 BC a Hindu ancient Saint Sushruta who was the then surgeon had mentioned and described more than 300 surgical procedures including perineal lithotomy in his book Sushruta Samhita[3,4]. In Shushra Samhita the mechanism of formation stone was described. As per this text the bladder stones are directly carried to the bladder and it is formed when there is cleaning of internal channels and taking of unwholesome food causing mixture of kapham (phlegm) and urine an forms stone. The size of the stone is to be bigger as there are collection of precipitants. As a non invasive treatment it is mentioned in Shushruta samhita to take vegetarian diet, urethral syringing of medicated milk, alkalis and clarified butter. When it failed to cure surgery in suggested[4].

In 460 to 377 BC Hippocrates staled disease of the kidney and bladder stone Hippocrates in his very famous oath of medical ethics for physician he states “I will not cut for the stone, but will leave this to be done by practitioners of this work.” At that time lithotomist was practiced through perineal lithotomy and hippocrates mentioned that the wound of the bladder were lethal[5].

In 276 BC Ammonius of Alexadria for the first time suggested crushing of stones to facilitate its removal[6]. As he was the first person to cut the stone with a then blunt instrument he was called as lithotones. Litho means stone and tomus came from tommy means to cut). Though this idea get any popularity[6].

In 25 BC to 40 AD Roman physician Cornelius celsus recorded for the first time the cases of “ perineal lithotomy” in his first time medicine ever written book Encyclopedia of medicine (de medicine)[1,6,7]. He was a physician not a surgeon but the description of this surgery assisted other Greek physician to perform

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practice lithotomy such as Cahes Plinus Seendos (23-79 AD) Galen (131-200 AD) and panl of Aegine (625-690 AD)[1,6,7].

On the basis of classical Greco-Roman works ancient Arabic Muslim physician did a great work by translating these classical writings into Latin language which helped Europian Physician who created new improvements and Rhases (841-926 AD) elaborated the Perineal Lithotomy in a book following the work of panl of Aegine[1].

In 1096-1438 in Europe during medical period, it was found little work in the management of KSD[1,10]. The European Lithotomian of that era was too much commercial on their profession. Whom so ever was coming on their way were operated. In 1300-1367 AD Chuliae wrote the Clurrgian magma about the surgery adopted by Arabians Greeks and his experiences[12]. Who was known as father of French surgery but not performed any lithotomy as it was very dangerous surgery. He described much about stone disease and surgery was separated by the medicine in early medieval times. So the separation between the surgery and practice of medicine was crated. The education regulatory process was started. The physicians are restricted to perform surgery and they were to follow the university directed program of education by studding of the writings of ancient medical authors such as by Galen. The surgery was regulated by royal college of surgeon through training and certification of surgical practice to legitimize surgery as a profession[10].

In 1453-1600 with Renaissance the intellectual creativity in many filed was rapidly developed. During the said period Colot form France adopted new technique of surgery for removal of urinary stone through suprapubic incision in 1475. He did practice over the criminal[1,13].

In 1520, Francisce de Romanis, member of the college of surgery, did major scientific improvement since Celsus and Alboueasis. He was the first person to introduce a sound to identify the neck of bladder through perineal incision, The use of broad knife called “Novacula” and retraetor for explorate was introduced by Francisco de Romanis. His student Marius Sanctus made popularize his technique of operation by nome as “Mario Operation” or “Grand Apparceil”[14].

During 15th century at the same period two Turkish physician, Sabuneuogle Serafettin and Ahi Ahmed Celebi initiated new technique of transurethral stone fragmentation and Bladder irrigation[15].

In 1561, during Renaissance, Pierre France removed calculus by suprapubic

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lithotomy for the first time as per record. But he never promoted this surgery among his followers as it was very hazardous approach[3]. During this time in 1550 authors recorded documents found where Cardan of Milan did a operation of lumber abscess and approached to kidney and removed 18 stones from kidney[1]. But no elaboration of surgical technique was mentioned.

Further in 1651-1714, Jacques de bearlie introduced "Lateral lithotomy"[17] and this surgical technique was perfected and was popularise by Ferre Jacques. He did more than 5000 operations.

In 1722, Willium Cheslden and in 1719, Jhon Douglas introduced a new technique of Bladder distension for extraperitonal approach. But for many year these two famous friends accused each other of plagiarism.

In early 18th century the surgical approach was having lots of severe complication. To avoid surgical intervention to treat the patient of lithiasis the doctors and surgeons actively sought dale possible solution to cut short the surgery. In 18th century medicine Hermann Boerhave was very eminent figure. He had written a chapter in his Imtitutiones medicine to treat a patients of urinary lithiasis. He recommended to take enormous liquid, to take hot bath to midnee vasodilatation and exercise to remove stone from urinary tract. It was the Boerhacve's opinion of lithotomy as a last resort when other approaches failed. His opinion was "I think lithotomy in an act of pure faith"[18].

KSD was historical when the famous person was the victims. One this list the historical figures like scientist Newfon, Benjamin Franklin, The philospher Bacconking, Leopold I of Belgium, Peter of Great, Louis XIV, George IV, Oliver Cromue Physicians Harvery and Boerhave and the anatomist Scarpa were the sufferer of urinary Bladder Stone[13] affected the Historical decision and judgment by the KSD as like nepoleonsufere.

Bonapart had severe illness from Bladder stone which had an impact in the Russian campaign in 1872 and Nepolian III might have changed the Europian History if he would not have been treated for Bladder stone with the them modern surgical technique during the Frances Prussian ware of 1870[13].

In 1824, Jeanaciviale modified the technique of Albucasis "Prinative Lithotrier" for grasping and fragmentation instrument. It was the beginning of use of Lithotripters for fragmentation of urinary stone. Bigelow in

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1874, Developed a stronger and harder lithotris which was introduced into the urinary bladder to crush the stones and to evacuate the fragmests which was known a lithotopaxy [22].

In 1869: Gustav Simon Performed removal of stone from the kidney for first time[23].

1873: Ingalis from Boston performed Nephrotomy for first time.

1879: Heinecke performed pyelotomy.

1881: Le Dentin did Nephrolithotomy for Ist time[1,24]

1887: Cqerony was first to put suhire a Nephrotomy incision [25].

1889: Kummel and Bardenhaner Carried out first partial Nephrectomies for stone disease[25].

1901: Max Brodel discribed the avasculas area of Kidney[26].

1913: Lower introduced a safer and easier surgery pyelolithotomy to remove stone form kidney than nephrolithotomy[25].

1965: An open renal surgery was intrasmisally extended pyelolithotomy pioneered by Gil vernet[27].

1974: Fitzpatrick et. al from England suggested the combination of extende pyelolithotomy with multiple Radial Nephrotomies for treatment of Large complex Stagttorn stones[28].

1980: First ESWL machine was introduce to provide a dramatic change in stone management[29].

1984: The US food and Drug administration approach use of ESWL machine[30].

1976: PCNL was described for the 1st time as a procedure of choice for the removal of urinary stone larger than 2cm and also located at lower pole of kidney.

1997: PCNL was introduced by Bellman which consist of without Nephroastomy drainage at end of procedure[3,4].

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