

Mysticism and Urology in Ancient Egypt

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Mysticism and Urology in Ancient Egypt Abstract

Objective: The sources of knowledge of ancient Egyptian medicine include: medical papyri, paleopathology, art, and hieroglyphic carvings. The purpose of this study is to examine the practice of urology in ancient Egypt utilizing various sources including the Edwin Smith and Ebers Papyri.

Materials and Methods: A brief overview of the medical system in ancient Egypt is completed in addition to an examination of the training and specialization of the physician in the ancient world. Urologic diseases treated in ancient Egypt and some of the first documented urologic surgeries are presented. Finally we look at the role of the physician-priest and the intertwined use of religion and magic in ancient Egyptian medicine.

Results: The same medical conditions urologists see in the office today were methodically documented thousands of years ago. Medical papyri show evidence that the ancient Egyptians practiced medicine using scientific method based on clinical observation of disease. This is exemplified by the Edwin Smith Surgical Papyrus, a collection of surgical cases that gives a diagnosis, treatment and prognosis for each ailment. In addition, is the discovery of medical specialization in ancient Egypt, giving us perhaps the world's first Urologists. Intertwined with the scientific method was also the rich mysticism and religion of ancient Egypt which were integral components of the healing process.

Conclusion: Our presentation will give an overview of the practice of urology in ancient Egypt, both in terms of pharmacologic and surgical intervention but also with a look into the religion of medicine practiced at that time.

Mysticism and Urology in Ancient Egypt Manuscript

Introduction:

Medical papyri show evidence that the ancient Egyptians practiced medicine using a scientific method based on clinical observation of disease². This is exemplified by the Edwin Smith Surgical Papyrus, a collection of surgical cases that gives a diagnosis, treatment and prognosis for each ailment². In addition, the discovery of medical specialization and perhaps the world's first urologists dates back to the Ancient Kingdom (3200-2400 B.C.)^{1,3}. Intertwined with the scientific method was also the rich mysticism and religion of Egypt^{4,5,6}. The purpose of this study is to examine the world of ancient Egyptian medicine, specifically urology, utilizing various sources including the medical papyri, paleopathology, art, and hieroglyphic carvings in tombs.

Methods and Materials:

Much of the knowledge of ancient Egyptian medicine has been gained through study of medical papyri; artwork in the form of statues and engraving, religious texts and palaeopathology⁷. Few medical texts remain and, to further complicate the matter, the interpretation of hieroglyphics has been the subject of scholarly debate^{8,9}. The language of ancient Egypt has been painstakingly reconstructed.^{1,8,9} Some words are found only in medical texts and may have different meaning in a clinical context. And, of course, there is the issue of legibility. Despite these complexities, through the works of famous Egyptologists, such as Chauncey P. Leake and Herman Grapow, there has come to be an understanding of the ancient Egyptian medical system¹. There is a consensus that an advanced medical system existed in ancient Egypt². It is further believed that this medical system incorporated specialists, including urology^{1,3,10}. As stated in, The Histories by Herodotus, after 460 BC: “The art of medicine is distributed thus: each physician is a physician of one disease and of no more; and the whole country is full of physicians, for some profess themselves to be physicians of the eyes, others of the head, others of the teeth, others of the affections of the stomach, and others of the more obscure ailments”¹¹. Although the writings of Herodotus are thought to have inaccuracies, there are records of medical specializations dating back to the Ancient Kingdom (3200-2400 B.C.). Frans Jonckheere, a scholar of Egyptian medicine, documented forty two physicians in the Ancient Kingdom, twelve of whom were specialists³. Evidence of a urologic specialist comes from a reference to the physician Irenakhty. He was given the title: interpreter of the liquids in the netnetet². Netnetet is thought to be the name of an organ having the form of a sac, suggesting the bladder. To date ten medical papyri have been discovered from ancient Egypt, and urologic issues are described in five of these documents¹⁰. The Ebers Papyrus, discovered in a tomb at Thebes in 1862, is the longest of the medical texts. The discovered papyrus was written in 1500 BC. but is believed to have been copied from books that date back to 3400 BC.⁶ Medical treatment of urologic disorders makes up 6.8% of all the recipes found in the Ebers Papyrus⁶. Urinary problems were treated with dates, grapes, gum, rush-nuts, wheat, celery, figs, carob, and yellow ochre^{6,12}. Impotence and priapism were treated with carob, juniper, hyoscyamus, oils, pine, salt, watermelon and flax^{6,12}. Interestingly, honey, which has intrinsic antibacterial properties, was the ingredient prescribed most often in the Ebers Papyrus¹².

The Edwin Smith Papyrus was purchased from a merchant in Luxor in 1862. It contains 48 cases of trauma with a description of each in terms of pertinent findings on history and physical exam; diagnosis of the medical condition; and a prognosis for the patient^{1,2}. This papyrus provides written evidence of the beginnings of deductive scientific reasoning in Ancient Egypt⁵.

There is evidence that surgery existed in ancient Egypt, and many believe this was another specialization within their medical system⁹. The medical papyri make many references to surgical treatment of abscesses and tumors using ‘knife treatment’ (*djua*)⁶. The ancient Egyptians had at least four words for knives used in surgery: *des*, *khepet*, *shas*, and *hemem*^{1,2}. It is thought that flint knives were used well into the Bronze Age, and may have been used as a disposable surgical instrument^{1,2}. A passage in the Ebers Papyrus also talks of using a reed ‘for making the knife-treatment’⁶. Two types of cauterization are described in the medical papyri. The *hemem* is described in the Ebers

Papyrus and is thought to be a metallic cautery or fire-heated lancet⁶. The *dja* (firestick)-a drill that was rotated against wood to create enough friction to create sparks is also described¹. The heat produced on the tip of the drill could then be used to cauterize wounds. Descriptions of suturing are found in seven cases in the Edwin Smith Papyrus². Needles have been discovered in Egypt dating back to the Predynastic Period and skilled needle-work dates back to the Early Dynastic Period². Despite this skill, references to sewing are uncommon in the medical papyri and the majority of lacerations were treated with bandages and topical remedies^{1,2}.

It should be mentioned that there is no convincing evidence that anything other than minor surgery was practiced in Ancient Egypt². In fact, not a single surgical scar was found during the examination of approximately 30,000 mummies². Additionally, there is a surprising lack of reference to catheters⁷. There is evidence that the Egyptians were skilled in copper and silver soldering yet there is none that catheters were ever created or used⁷. Urinary retention is documented in the Papyrus Ebers but the treatment was a medical remedy to ‘force out the urine’ using crocus, abu plant, berry of the uan tree, fresh gruel, linseed, uam seeds, duat plant and water⁶.

Circumcision was performed in the Ancient Kingdom and is one of only three illustrated surgical procedures practiced at the time^{2,12}. A drawing demonstrating this surgery was found in the tomb of Ankh-ma-hor, vizier and overseer of all the works of King Teti. The relief dates back to the Ancient Kingdom 2345 BC and is thought to be the first known picture of any surgical technique¹². It is thought that circumcision was commonly undertaken as ritual initiation into manhood or priesthood and was a late pubertal procedure. It is referred to in a passage from the Book of the Dead which states: “Blood fell from the phallus of Ra after he had finished cutting himself”¹. Ra was the Egyptian sun-god and a deity of priests¹³. Herodotus believed circumcision was done for hygiene: “They practice circumcision for cleanliness’ sake, preferring to be clean rather than comely”¹¹.

Besides the medical papyri, information pertaining to Ancient Egypt has been discovered through the science of palaeopathology. This refers to the study of injury and disease in ancient man through histological examination of tissues, dissection, and radiographic methods^{2,12}. The introduction of the CAT scanner, first used in the imaging of a mummy in 1977, revolutionized the field of paleopathology. It allowed extraction of information without damage to the mummified corpse¹⁴⁻¹⁵. CT provided precise detail of the skeleton, musculature and contents of the thoracoabdominal cavity. However, one must keep in mind its limitations. First, the pathological findings are affected by the process of embalming. The brains, lungs and abdominal organs were removed and placed in canopic jars. In addition, use of resin, pitch and packing was responsible for soft tissue damage¹⁴⁻¹⁶. Fortunately the kidneys were typically left in the bodies, allowing them to be studied. Some believe this is due to the retroperitoneal location of the kidneys, perhaps making them less accessible during mummification⁷. Others suggest that the kidneys were considered a sacred organ. This is supported by a passage from the thirteenth chapter of the *Book of the Dead*: “May naught be against me in the presence of the great god, the lord of Amentet. Homage to thee, O my heart! Homage to you, O my Reins”⁷. It is also important to take into consideration that the mummification process was elaborate and costly and the pathologic findings of these individuals do not necessarily reflect epidemiology of the overall population¹. Elliot Smith and Dawson reported three cases of

renal calculus and two vesical calculi in their review of 30,000 bodies². A vesicourethral fistula was also found in the remains of a princess of the Middle Kingdom who died during childbirth². Ruffer identified the congenital atrophy of a left kidney in one mummy, multiple bilateral renal abscesses containing masses of bacilli in another subject, and three renal calculi found in a male skeleton dating to before the first Dynasty⁷. The stones were large and were made of uric acid and phosphates⁷. Schistosomiasis was not a common finding among the embalmed corpses of Ancient Egypt and this perhaps relates to selection bias. It is contracted from waters infested with the parasite schistosoma haematobium, and would have been more common in the working class: farmers or fisherman¹. Schistosomiasis is *aaa* in the medical papyri and is pictured as a discharging phallus⁶. Ebbell translated this to mean haematuria in 1937². His interpretation was supported by Jonckheere in 1944 and Lefebvre in 1956². Egyptologists also believe that *aaa* disease was in fact schistosomiasis¹. Evidence of this comes from the Ebers Papyrus, where passages connect *aaa* disease with blood in the urine. *Aaa* is declared as 'deadly', that it was associated with worms and also describes a 'remedy to kill worms in the body caused by the disease'⁶. *Aaa* is mentioned fifty times throughout the medical papyri and speaks to the prevalence of the disease in ancient Egypt^{2,10}.

Results:

The ancient Egyptian medical system was perhaps the most advanced of its time existing centuries prior to the Greeks². It was comprised of a highly structured medical system which influenced medical thought throughout the ancient world¹. In ancient Egypt, medicine was a branch of advanced scribal learning and the temples were the center of medical knowledge¹⁸. Physicians began their training in Houses of Life, centers within the temple which contained libraries and medical texts¹⁸. There students learned how to read, write and copy manuscripts prior to entering apprenticeship¹. There was an intrinsic power ascribed to the written word. Only the upper class was literate, 1-2% of the population, and so physicians were of high social status. There also existed a hierarchy within the medical system between common practitioners, the palace physicians, royal physicians, and specialists^{8, 18}. It is thought that general education at the Houses of Life ended around the age of ten and at that point medicine was passed down from father to son¹.

It is evident from sources such as the Edwin Smith Papyrus that the scientific method was implemented as a part of Ancient Egyptian medicine¹⁹. Healing was approached through a combination of scientific, mystical and religious aspects and supernatural influences were considered to be the origin of certain diseases⁵. Knowledge of magic was considered an area of advanced scribal learning and the invention of medical science was ascribed to Thoth, the ibis headed moon god^{18,13}. In the Ebers Papyrus, Isis is called upon to import healing powers to the prescribed remedies⁶. Pestilence was thought to be an infliction by the Goddess Sekhmet and exorcisms against pestilence are found in the Edwin Smith Papyrus¹⁹.

The medical writings on schistosomiasis are a prime example of the combination of science and religion practiced by the ancient Egyptian physician. There are multiple pharmacologic remedies for this disease in the medical papyri⁶. Prevention was also paramount. People were encouraged to avoid polluted water and penile sheaths were

worn to preventing the worm from ascending the urethra^{2,12}. It was also believed that the disease was influenced by magical forces. The German Egyptologist Heinrich Brugsch translated this malady as the “deadly divine disease” and so treatment of *aaa* disease involved magical treatments and incantations: “Smear therewith any person who has uha-swelling with stinking matter. Lo, the Evil will be driven away as if nothing ailed him”^{1,6}. The Berlin Papyrus refers to “driving out the *aaa* of a god or dead man”². Through the combination of medicine and mysticism, the ancient Egyptian healer played a dual role as physician and priest because of the void in the understanding between cause and cure. According to Gustave Lefebvre: “Medicine is issued from magic, which is itself only an aspect of religion, and all three, among the Egyptians, remained intimately intermingled with one another”¹.

Conclusion:

Ancient Egyptian medicine was a system that combined science with magic and religion in the diagnosis and treatment of disease. It is within this ancient civilization that we find the roots of the field of urology.

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