REVIEW

MAGICAL MOMENTS IN MEDICINE
Part I - Introduction and Egyptian Medicine

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Before we go on ...

The young doctors of today never meet the greatest of their teachers in person. To acquire this extraordinary honour they must turn to the pages of medical history - to swear with Hippocrates (!), to pare with Parè, to listen to Lister, and to see Pasteur's inoculation blister. History will then show them a scintillating pageant, within which are vivid colourings which reflect the scarlet terror of epidemics, the white stillness of death, the gray fog of the dark ages and the golden gleam of revolutionary discoveries (I do not mean the invention of the wheel !). While this chronicle of medicine reveals follies and frauds, it also discloses unsurpassed dedication, integrity, sustained effort and heroic sacrifice in the battle against death. Many have dreamed, some have ventured but few have achieved. The fascinating discoveries and the painstaking achievements of those who toiled, in spite of all odds, for the cause of medicine, laid the unshakable foundation for medicine and all its breakthroughs seen over the years. The magical web of medical science is knit by the truthful dreaming of the theorist, the demonstrations of the experimentalist, the magic of the chemist, the guidance of the laboratory and the wisdom and common sense of the practitioner. It is therefore evident that history is an integral part of medical science.

Physicians who look ahead for problems, paradoxically never look behind for guidance. Medical history is an excellent rear-view mirror, but unfortunately many doctors are not aware of their medical heritage. This may not be their sole fault, since few find time to study and others find them voluminous, uninteresting and unimportant. The purpose of this mini series is to set before the members of our elite and noble profession, in perspective, the cardinal events that have happened through the ages that have made us what we are today, so that we could appreciate the value of the rich legacies left behind by the doyens of our profession. Each part would be having several thematic units of text along with a few illustrations. Each unit would be covering a particular subject or an era, an important discovery or controversy or the development of a speciality. The events would be chronological and according to facts available and recorded in literature.

Former U.S. President Truman once said, " The best education for a President of the United States comes from an intimate study of the lives, letters and papers of his predecessors." This saying is also very appropriate for the medicine men for whom a study of medical history can be of as great spiritual and practical value as to a president.

" What is Past is a Prologue to the Future."

(A marble carving in front of the United States Archives building in Washington D.C.)

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Part I	Introduction and Egyptian Medicine
Part II	Greek Medicine
Part III	Roman Medicine
Part IV	Indian, Moslem & Chinese Medicine
Part V	Medicine in the Middle Ages
Part VI	Medicine in the Renaissance
Part VII	Seventeenth Century Medicine
Part VIII	Eighteenth Century Medicine
Part IX	Nineteenth Century Medicine
Part X	Medicine until 2020 & Conclusion

Egyptian Medicine :

Egypt has not only given birth to culture and civilisation but also made early contributions to medicine. Every practitioner wittingly or unwittingly acknowledges this fact with each of his patients. Surprised ? Well. It's the mystical sign ℞ which till this day adorns the top of all medical prescriptions. Unique in being usually the only decipherable portion of most handwritten prescriptions, its origin dates back 5000 years and is based on the legend of the Eye of Horus.[1] (Horus was a legendary healing god who lost his eye as a child, fighting evil. It was eventually restored by a sage called Thoth.) The Eye of Horus therefore became the symbol of godly protection and healing. In the Middle Ages, the Horus Eye resembled the numeral 4 and later by gradual transformation emerged to its present form. It is certainly not an abbreviation for "recipe" as many think.

Picture 1: Horus, the ibis-headed god, who supposedly healed the sick and restored health. Notice the eye, which later became ℞, the symbol of recovery.

Doctors have always been modest - fee excluding. That is perhaps the reason for sparse data about the early doctors and their lives. The oldest portrait of a doctor carved on stone is that of Sekhet'enanach, chief physician to Pharaoh Sahura (2550 B.C.)[2]. The man was immortalised " for having cured the king's nostrils " and it is suggested that the monument was to make amends for that age-old failing: belated payment of the physicians bill. The Pharaohs, in fact, had several personal physicians with definite portfolios - store, drug, fumigation etc. Pharaoh's physician Irj, (probably a specialist on haemorrhoids) has been described as " shepherd of the anus " in his tombstone inscription. An ancestor of Tutankhamen had appointed two medical specialists - one for his right eye and another for the left!

Picture 2: Sekhet'enanach, chief physician of Pharoah Sahura. Probably the world's first portrait of a doctor.

The Egyptians practiced several therapeutic methods that in retrospect appear quite rational. For instance, for an inflamed uterus the patient had to stand over hot coals sprinkled with some scented wax, and the ascending smoke was supposed to reduce the inflammation - the earliest form of the first intravaginal diathermy ! One fine day, on the banks of the Nile, a group of priest-physicians observed an ibis filling his beak with water and injecting it into his anus[3]. The hint was duly taken and as a result enema was discovered, which was a great boon to humanity.

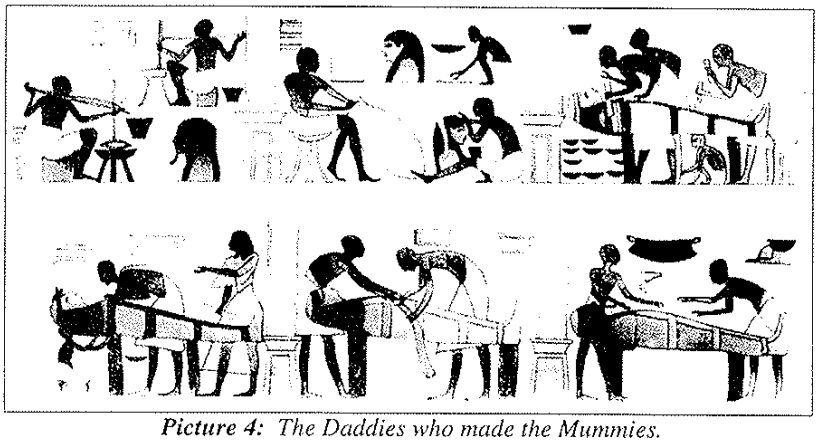
Picture 3: The Ibis: Auto-enema ?

Being prudish about their hairstyles, the Egyptians kept the barber shops busy with their close crops. The only time they allowed their hair to grow was during times of bedridden illness. On recovery, the shorn hair was weighed meticulously to calculate the physicians fee which was directly proportional to it. I wonder whether bald Egyptians, with no basis of assessment, received any medical attention at all !

Mummification was purely a religious custom performed by a certain caste of Egyptian priests[4]. Doctors wisely steered clear of it. The embalmers, however, had excellent knowledge of the internal anatomy and relations of various organs. The sacrosanct heart was left behind along with the kidneys, but the other viscera were removed and preserved in vases - the first potted museum specimens. They also devised special instruments (?trephines) to remove the brain through the nostrils. Such experience not only advanced the knowledge of

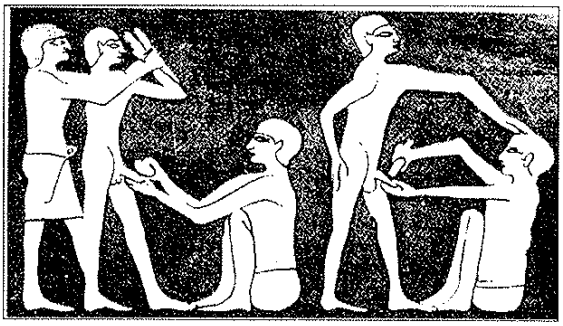
anatomy, but conditioned the general public to the idea of cadaveric dissection. (The Ptolomaic rulers of Egypt later gave permission to Greek physicians to study the human body systematically by dissection). The physicians got a whiff of knowledge about antiseptics as they fought to avoid body decay using substances like naphtha and alabaster. The Egyptian equivalent of medicated dressings and gauze was linen impregnated with bituminous substances, some measuring over 1000 yards!

Surgery started gaining roots during this period. The crude instruments of the Stone age were remodelled into sharper instruments with the discovery of copper. The knife and the cautery were supposedly used freely (and crudely). Circumcision[5] dates back to 4000 B.C. and was done chiefly on hygienic considerations. Pythagoras, in 6 B.C. lost a temple school seat for not being circumcised.



Picture 4: The Daddies who made the Mummies.

Thanks to the erstwhile embalmers and the present day paleo-pathologist we have an absolute report of the health status in ancient Egypt. With mummies showing unmistakable signs of Pott's disease[6], gout, rheumatoid arthritis, appendicitis, schistosomiasis, renal, bladder and gallstones, infantile paralysis[7] and also arteriosclerosis, I doubt they were in any way better off than us, at least as far as most common ailments are concerned !



Picture 5: *Carving at the Ankhmahor tomb at Sakkara showing the circumcision of two youths. The one on the right declares that he is feeling good, while his terrified pal, who is in a refusing mood, is being held by the surgeon's assistant.*

The Egyptians gave the world the papyrus - which has refined itself today as paper. Two papyri deserve special mention; the Ebers Papyrus (1550 B.C.) discovered in 1873 by George Ebers contained 811 prescriptions for ailments ranging from crocodile bite to pain in the toenail. One particular prescription goes like this:

"The physician will carefully prepare a mixture of crocodile dung, lizard flesh, bat's blood and camel's spit..... " (the rest has been censored in public interest.)

The second papyrus, also popularly known as "the worlds first surgical textbook" (1700 B.C.) was discovered by Edwin Smith. It contains comprehensive case studies including examination, diagnosis, and therapeutic instructions. Other papyri obtained indicate that they also had an amazing knowledge of medicinal herbs, minerals, secretions and animal substances.

Their intellectual advance was, however, not pristine. Some strange and erroneous medications (like dead mice for paediatric ailments) were also prescribed with such therapy passed along from generation to generation. Thus folly was preserved with fact and layer by layer, wisdom and stupidity piled up. The latter ultimately prevailed causing the Egyptian medicine to sink down and die of its own weight.

Picture 6: *Pott's disease of the spine. Mummy of priest of Ammon XXI dynasty*

Picture 7: *Infantile paralysis. Stele of XVIII dynasty Carlsberg Glyptothek, Copenhagen.*

But while he lasted, the ancient Egyptian doctor was certainly the "cock of the walk" and the role model for his contemporaries in Greece and Rome. Ophthalmology, in particular was well developed, with King Cyrus and King Darius sending for Egyptian oculists for treatment. The Greeks drew heavily upon Egyptian knowl-

edge to develop their own system of medicine. The conviction of people in Egyptian remedies was so much that Galen suggested the sprinkling of Egyptian words in Roman prescriptions in order to bolster the patients' confidence in that remedy!

Picture 8: *Baal-Zebub - Assyrian god of flies clearly identified by the Babylonians as a vector for certain diseases.*

While the Egyptians concentrated a lot on death and the life after, the neighbouring Babylonians were more practical and concentrated on their immediate physical needs. The supernatural element also came into play with the priest-physicians leading the people to believe that demons were the cause for human suffering. Grotesque masks and daggers were fashioned to terrorise and ward off the evil forces of sickness along with a host of superstitious maneuvers. Baal-zebub[8] (cf. Beelzebub, meaning Satan) the god of flies, was blamed for all ill health. Arad-Nana, the Babylonian court physician states in his letter:" Beware of flies and shun lice in the interest of good health" (c. 660 B.C.) Whatever be the superstition behind it, the advice was certainly sound and the Babylonians should be given credit for laying down the principles of community and preventive medicine and identifying insect vectors as an important factor in the transmission of disease.

Picture 9. *The very first " breathalyser test " ! The patient breathed into the sheep's nostrils as part of a prognostic (? diagnostic) test. The animal was later killed, its liver examined and the results declared.*

How old is the breathalyser test? Not very, we presume. But not quite. The Babylonians instituted a primitive form of a prognostic test wherein the patient was asked to breathe into a sheep's nose[9]. The unfortunate sheep was then slaughtered and a 'reading' taken from its liver. The 'breathed - on liver', it was believed, would register the nature of a disease and the prospects of recovery!

Babylonian healers were of two kinds; the ***ashipu*** who dealt with magic and the mysterious realms of inner medicine and the ***asu*** who were surgeons. They had fixed scales of fees but payment was made only on recovery. Hammurabi was the man responsible for legislating such uncomfortable clauses, which made life difficult for the doctor who was also punished for failure. Therefore, there was no margin for error and the doctor had to be either flawless or lucky! Boy! What would they have not given to get some kind of medical insurance !!

Numbers in superscript : Pictoral illustration.

(To be continued: Next - Greek Medicine)

References

1. A Pictorial History of Medicine by Otto L. Bettman.
2. A History of Medicine by Nancy Duin & Jenny Sutcliffe.
3. The Epic of Medicine by Felix Marti-Ibanez
4. A History of Medicine by Henry E. Sigerist

(**Note** :The factual and historical data provided in this series have been extracted from various textbooks and publications and the author wishes to sincerely nutshell perspective of medicine's past history, an elaborate bibliography has been dispensed with.)