

Anaesthesia in Islamic Medicine

<"xml encoding="UTF-8?">

Introduction

Science and medicine belong to no ethnic or national group. Of the innumerable scientific discoveries made by man, only few are really the work of a single person, nation, generation and locality. Often a medical discovery is the summation of the many partial contributions made by predecessors throughout the ages.

It is unfortunate that leading historians have ignored the achievements of the orient as a whole and the Muslims in particular in the various fields of science and medicine. There is evidence that Islamic civilization has made enormous contribution to the progress of science and medicine. Suffice it here to mention the names of few great Muslims scientists whose gigantic contribution to the progress of civilization is presently enjoyed by all mankind.

Of these were Alaa El Deen Ibnul Nafies whose description of the pulmonary circulation antedated the confirmed discoveries of the renaissance period, by 300 years, Ibn El-Haitham the founder of optics and El-Khawarizmi the founder of Algebra, are other great scientific contribution from Islam. The purpose of this study is to highlight the discoveries of Muslims scientists in the field of anaesthesia, which influenced the western civilization and still being used in practice at the present time.

Anaesthesia in Islamic Medicine

The delay in the introduction of pain allaying drugs is attributed to the old belief in the west, that pain and suffering was the price paid by humans for sins.

Humanity is indebted greatly to the introduction of modern anaesthesia by Morton, Wells, Simpson and others. Text books at hand, however, indicate that inhalational anaesthesia as such was not known before, and that there may have been some attempts, tried by the Greeks and Romans who are reported to have used magic and superstition, hypothermia and real use of analgaesic mixtures.

The physicians of Islamic civilization were familiar with surgery and have practiced different kinds of surgical procedures such as amputation, tonsillectomies, excision of tumors, and in some instances describing technical details.

This extent of surgery could not have been performed without some kind of pain allayment. In addition, one of the reasons why the Muslims could make their way into the field of

anaesthesia was the fact that the concept of pain as a punishment from God had no place in their belief and tradition.

There is evidence that the Muslims used to administer sedatives and analgaesic mixtures before a surgical operation. A question from Avicenna reads "A patient who wants to have an amputation of one of his organs must have a drink prepared from a mixture of Mandagora and other sleeping drugs". Other plants used for the same purpose were Indian cannabis (Hashish), Opium poppies (El-Khishkash), Shweikran (Hemlock), Bhang and hyoscyamus.

The Muslims scientists are also credited for the introduction of inhalational anaesthesia by using the then called "Anaesthetic sponge" or "Sleeping sponge". A quotation from Sigrid Hunke's book reads: The science of medicine has gained a great and extremely important discovery and that is the use of general anaesthetics for surgical operations, and how unique, efficient, and merciful for those who tried it the Muslim anaesthetic was.

It was quite different from the drinks the Indians, Romans and Greeks were forcing their patients to have for relief of pain. There had been some allegations to credit this discovery to an Italian or to an Alexandrian, but the truth is and history proves that, the art of using the anaesthetic sponge is a pure Muslim technique, which was not known before. The sponge used to be dipped and left in a mixture prepared from cannabis, opium, hyoscyamus and a plant called Zoan".

In the field of chemistry, the ether bond (-O-) which is the basic radical in a group of anaesthetics is common use to day (Diethyl, ether, methoxyflurane, enflurane, fluroxene, forane) deserves special consideration. There seems to be some disagreement as to who synthesised ether first. Some sources credit Valerius Cordus who is said to have described the technique of its manufacturing in his book "Annotation on Discorides" (printed 1561) and called it sweat vitriol.

Other sources claim that Paracelsus described the synthesis of ether in his "Opera Medico-Chemica Sive Paradoxa" (printed 1605) and reported its use in chicken. In this controversy Armstrong davison made the following statement:" It is not certain that Cordus who died in 1544, deserves the credit of discovery; Paracelsus "Von Honheim" who died in 1541 also described the synthesis of ether in his Opera Medico-Chemica Sive Paradoxa".

There is evidence to indicate that physicians of Islamic medicine were the discoverer of alcohol and probably unknowingly of ether radical (-O-). It is well documented that alcohol was distilled by El-Kindi and although the name is a pure Arabic, coming from the original word 'Al-goul" which means something which knocks down the brain, and it is mentioned in the Holy Quran, describing the wine of paradise as "Free from Al-goul" and those who try it will not

suffer from hangover.

Despite of that, there has been some attempts to credit the name to a western author Eric, J. Holmyard (1937) came up with the following statement: "It was Paracelsus who first gave the name alcohol to spirit of Wine. Originally signifying the black eye-paint used by eastern women, al-kuhl or al-Kohol had gradually acquired the meaning of any very finely divided powder; thence by a natural transference it came to mean the best or finest part of a substance. Possibly Paracelsus regarded Spirit of Wine the best part of wine and therefore named it alcohol of wine or simply alcohol.

In another study made by M.Y. Hashimi (1968) the view of Holyard is adopted and Hashimi went further to say: "Alcohol is plural of Al-kuhl". Both views are in fact far from the truth. There is no word in Arabic such as alcohol, according to all Arabic dictionaries, Encyclopedias and literature.

Al-Kuhl is a remedy put in the eye for treatment and there is no plural of this ward. The Arab as a proverb used to say (Fine as el-Kuhl) for solid substances and certainly not for the liquids and there is evidence that the name alcohol is a deformed conversion of Al-goul, a derivative of El-Igtial which means knocking down swiftly, the characteristics of wine as mentioned by poetry of some Arab poets before Islam.

In the other hand there is evidence that Sulfuric Acid was discovered by Al- Razi. They used to distil alcohol by treating it with sulfuric acid. Considering that diethyl ether can be produced by the extraction of water out of alcohol ($2C_2H_5OH + H_2SO_4 \rightarrow H_2O + C_2H_5-O-C_2H_5 + H_2SO_4$); it becomes likely that the old Muslims were first to lay down the basis for the synthesis of this essential anaesthetic substance.

In the field of restriction, the use of bellows (a prototype of Ambu) is restricted to the Society of Resuscitation of Drowned Persons of Amsterdam in 1767 and to the Royal Humane Society in 1771, some even credit the use of bellows to ventilate the lungs of Paracelsus (1493-1541). However there is evidence that Muslims of the 13th century A.D. were familiar with resuscitation of respiration using the bellows.

The following abridged anecdote is taken from Ibn Abi Usibia "Calsses of Physicians" (Ar. Tabakat El-Attibaa) written in the 13th century. The author was a learned physician and oculist who lived chiefly in Cairo and died in 1270 A.D.

Ibn Abi Usibi'a narrates:

"El- Rashid (Emir El Mou'mineen, or Prince of Believers) would not eat unless his physician Gabriel Ibn Boukhtaishou was present. One day Gabriel arrived late to dinner and begged forgiveness of El- Rashid saying that he was busy trying to medicare the cousin of the Emir

(Ibrahim Bin Saleh), who was very ill and that he did not think that the cousin would survive longer than the pray of darkness. On hearing this, the grand Vezir Jafar Ibn Yahya interfered and said: "Great Emir El-Mou'mineen, I know by the name Saleh Bin Bahla who is familiar with the Indian way of medicine and I would suggest seeking his services".

Saleh Bin Bahla was summoned and ordered to examine the Emir's cousin, Ibrahim and report back to the Emir. On completing his examination, Saleh Bin Bahla reported saying: "Be humble enough your Majesty, Prince of Believers to be my witness that if your cousin expires tonight, every pet I own will be sacrificed for God, and whatever fortunes I have will be gifted to the poor". When the time of the evening prayer came, the death of cousin Ibrahim was announced. On hearing the news, El-Rashid started to blame Saleh. Saleh kept silent for a while and then shouted: Allah, Allah (God, God) your Majesty Prince of Believers, I urge you not to bury your cousin alive.

Your cousin is not dead. Please allow me to see him again". Permission was granted, Saleh brought a bellow and a snuff called (El-Kundus) and started to inflow through the nose of Ibrahim for round twenty minutes. Soon the body of Ibrahim began to shake, then he sneezed and sat in front of El-Rashid, Ibrahim survived, married El-Rashid's sister, Princess El-Abbassia and was appointed governor of Egypt and Palestine".

Conclusion

Science has no native home of its own and every person has the right to ask for it. When the talents and circumstances exist, new horizons can be discovered. The Muslims are first in the list of the nations who had the honour of holding the torch of civilization for quite a while and made a great contribution to basic sciences, upon which the modern technology and progress is raised. In the field of anaesthesia and resuscitation, the contribution of Islamic civilization is enormous and its influence on the western civilization is profound and discoveries made have laid down the foundation of modern practice. Today the Islamic nations are invited to contribute more and more and they are quite capable to do right that again.

References

- HADDAD, F.S.: "Alo-Aldeen Ibnul Nafiesh", M.E.J. Anaesth. 4:223-224, 1974.
- GRAY and NUNN: "General Anaesthesia". Third edition, Vol. I, PP. 708-710, Butterworths, 1971.
- WYLIE and CHURCHILL-DAVIDSON: "Practice on Anaesthesia". Third edition, P. 281, Lloyd-

Luke,1972.

ARMSTRONG DAVIDSON: "General Anaesthesia". Third edition, Vol. I. pp. 716-718,
Butterwerths, 1971.

AVICENNA: "El-Kanun Fi'l Tibb". Vol. II -371, Vol. III-132, 134, 137, 229. A newly print by El-
Musanna Bookshop, Baghdad, Offset from Boulak print (1294 A.H.) and 1877 A.C.).

EL-SHATTI, SH.: "About Cancer in the Arab Medicine". Proceeding of the 14th Science Week.
Publication of High Council of Sciences, Damascus, 1974.

SIGRID HUNKE: "Allah Sonne Uber Abendland, Unser Arabische Erbe". Second edition, pp.
279-280, Arabic Text, The trading Office, Beirut, 1969.

GRAY and NUNN: "General Anaesthesia". Third edition, Vol.I, p. 711, Butterworths, 1971.

EL-KINDI, JACOB IBIN ISAAC: "Chemistry of Perfume and Distillation". Arabic text, p. 50,
Leipzig, 1948.

The Holy Quran: "El Saffat Verse", Chapter (23), Aiet (46).

HOLMYARD, E.J.: "Makers of Chemistry", pp. 111-112, Oxford, 1937.

EL-HASHIMI, M.Y.: "Sur L'histoire de L'Alcool". XII Congre International d' Histoire des des
Sciences, Albert Blanchard, 1968.

IBIN MANZOUR: 'Lissan El-Arab". Vol. II, Lpp. 584-587, Sader house, Beirut.

EL-RAZI, EBU-BAKIR: "Kitab El-Esrar", p.4,109 and 110. Milli-UNESCO Dar Iran,Shamara
commission publication, Jib Khana, Haydari, 1343 A.H.

HERHOLDT, J. D., and RAFN, C.G.: "Life Saving Measures of Drowning Persons", Copenhagen,
1796. Reprinted by Scandinavian Society of Anaesthesiologists, Aahus, 1960.

IBN ABI-USIBI'A: "Classes of Physicians". Wahbiya Press, 1922.

IBN ABI USIBI'A (600-668 A.H.): "Tabaket El-Atibba". Arabic text, pp. 475-477, Dar el-Hayat
Publication, Beirut, 1965.

KAMAL HASSAN: "Encyclopaedia of Islamic Medicine", p. 711. General Egyptian Book
.Organization, 1975