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HISTORICAL PERSPECTIVE OF *SHAQEEQA* (a MIGRAINE) WITH SPECIAL REFERENCE TO CONTRIBUTION OF GRECO-ARAB PHYSICIANS

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ABSTRACT: The current practice of medicine indebted much to the knowledge and achievements of the past. It is really surprising that far back Greco-Arab physicians were aware of the various diseases and scientifically mentioned them. Most of the knowledge is still in practice. Modern days practice relies on the fundamentals proposed by them. In the classical text of Unani Medicine, headache is described in detail. The *Shaqeeqa* (a migraine) is described nearly in all classical text of Unani medicine as a disease entity includes definition, etiopathology, clinical feature, and treatment.

INTRODUCTION: Jalinoos (Galen) introduced a word migraine. It is derived from the Greek word 'hemigrania' in approximately 200 AD^{1, 2, 3}. The International Headache Society classified headache into:

Primary: Occurring in the absence of external causes and Secondary - some of which may have an evil cause⁴. There are two closely related syndromes comprising what is known as a migraine. They are a classical migraine (a migraine with aura) and common migraine (a migraine without aura)⁵. The pathogenic mechanisms are not well understood. There are different opinions regarding the pathophysiology of a migraine. Several authors stated that blood levels of histamine, serotonin and nor-epinephrine increases during the attack⁶.

It has also been recognized to excessive pulsation of extracranial arteries and possibly intracranial ones. Several biochemical abnormalities are thought to involve during the migraine attack. These comprise local leakage of a vasodilator polypeptide called neurokinin and a decrease in the plasma level of serotonin⁷. A migraine is the second leading disorder of brain when estimated for prevalence⁸. Regarding the actual number of attacks, combined figures from prevalence and incidence studies suggest 3000 migraine attacks occur every day for each million of the general population⁹.

A headache has troubled mankind from the dawn of civilization. Signs of trephination, a procedure wherein the skull was perforated with an instrument, are evident on Neolithic human skulls dating from 7000-3000 BC^{1, 10}. It was practiced at that time to firmly bind a clay crocodile holding grain in its mouth to the patient's head using a strip of linen that bears the names of the gods. The Ebers Papyrus, dated around 1500 BC is an Egyptian medical treatise that describes headache as "sickness of the half of the head" and includes a passage concerning the treatment of a migraine.

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There is also a description of Neuralgia, migraine and shooting head pains^{1, 11, 12, 13}.

According to literature in Unani System of Medicine (Greco- Arab medicine), it is the type of a severe headache which involves one half of head whether it is right or left. It is an episodic type of pain accompanied by nausea and vomiting. The possible English equivalent of *Shaqqeeqa* is a migraine¹⁴. *Shaqqeeqa* is an Arabic word which is derived from the word ‘*Shaq*’ which means a part or a side, due to which it is named as *Shaqqeeqa*¹⁵.

Buqrat: (Hippocrates) (460-375 BC) was the first to describe a collection of symptoms that included aura, pain, and vomiting as part of a singular disorder^{1, 10, 11, 13}. He believed that headache could be triggered by exercise or intercourse and vomiting could partially relieve the pain of a headache¹⁶. He was the first to distinguish different types of a headache and stated that the headaches were a true disorder and not a curse from the Gods^{17, 18}.

Celsus: (215-300 AD) believed that drinking wine, crudity (dyspepsia), cold and heat of fire or the sun could trigger a migraine.¹ Because of his classical descriptions; Aretaeus of Cappadocia (Second Century AD) was credited with discovering migraine. He divided headaches into three types: cephalgia, cephalaea, and heterocrania¹⁹.

Jalinoos: (Galen) (131-201 AD) proposed the name ‘hemicrania’ meaning ‘half of the head’ to describe headaches. Hemicrania translated from Greek to Latin became ‘hemicranium’ and was transformed to ‘megrin’ in old English and ‘a migraine’ in French¹⁰. He defined this pain as it examines the weakness of one side of the head and reaches to the center of the head and the weaker side accepts this pain²⁰. Almost 2,000 years ago he commented: “How constantly do we see the head attacked with pain when yellow bile is contained in the stomach: as also the pain forthwith ceasing when the bile has been vomited ”²¹.

Abul Hasan Ahmad bin Mohammad Tabri (780-850 AD): In his book *Moalajat Buqratiya*, he mentioned various types of *Shaqqeeqa*. He said that it is of two types, i.e. *Shaqqeeqa Haar* (Hot Migraine) and *Shaqqeeqa Baird* (Cold Migraine). The heaviness of head, increased the temperature at

the site of pain, rapid pulse, tinnitus, pulsation at the site of pain, relief of pain by using cold items and constipation are the symptoms of *Shaqqeeqa Haar*. The heaviness of head, coldness at the site of pain, relief of pain by using hot items, cold and catarrh in cold season are the symptoms of *Shaqqeeqa Baird*.²² He also quoted the statement of Ibn Sawayr that “a migraine may affect whole of the head”¹⁵.

Zakariya Razi (Rhazes: 850-923 AD): mentioned the aetiopathogenesis and classic symptoms and its treatment in the first volume of his book *Kitab-al-Hawi*. According to Zakariya Razi, this is mostly due to *buroodat* (coldness) and *akhlal ghaleeza* (viscous humor). It can be due to *istefragh* (evacuation) either in the form of polymenorrhoea or excessive puerperal discharge.²³ He further stated that occasionally, headache causes facial palsy temporarily.

Ali Ibn Abbas Majoosi (930-994 AD): In *Kamilus san’a*, he mentioned the etiology and symptoms of *Shaqqeeqa*²⁸. According to Majusi, the cause of a migraine can be fever, accumulation of morbid matter, *bukharat hadda*, high-grade fever like in *humma muharriqa* and *humma ghib* (bilious fever), *ratoobat ghaleeza* (thick fluid) and *bukharat* (vapours) from stomach²⁴.

Abul Qasim Zahravi (936-1013 AD): the great Arab surgeon, known as *Albu Casis* in western countries suggested that *Kaiyy* (cauterization) by hot iron should be done over the head or insertion of garlic in the temple by making an incision. He further stated that evacuation of morbid matters from brain should be done by specific medicine. Furthermore, he described that if condition favors, cauterization should be performed by *Miqwat sakinia* (an instrument for performing cauterization)²⁵.

Ibn-e Sina (Avicenna: 980-1037AD): In his masterpiece *Alqanoon fil tib* (*Alcanon*), he described the definition, etiology, clinical features and treatment of *Shaqqeeqa*. He described about *Fas’d of Arq Jabeeha* (venesection) and *Huqna* (enema) in its treatment²⁶. He further stated that; “It is a type of pain which involves half of the skull”²⁷.

Avicenna also stated that the cause of a migraine remains within the skull and sometimes outside the skull but often occurs in the muscles of the temporal area. The causative agents are predominantly *Akhlat-e-harra* (hot humour), *akhlat-e-barida* (cold humour), *riyah* (flatus) and *bukharat* (vapors). *Akhlat* either originate from the veins and arteries lying outside the skull or from the brain parenchyma and its meninges itself, while *riyah* (flatus) and *bukharat* (vapors) ascends from the whole body or the affected organ and produce pain”²⁷.

According to Ibn-e Zohar (1092-1162 AD): A migraine can be either due to *Riyah haar* (hot flatus), congestion or due to *bukharat* (vapors) from morbid matters of stomach²⁸.

Sharfuddin Ismail Jurjani (1041-1136 AD): A brief explanation about *Shaqqeqa* was written in his famous treatise of Zakheera Khawarzaam Shahi also known as Encyclopaedia of Tibb (Unani medicine) in the western world. He described its treatment according to the matter involved²⁹.

Ibn Hubal Baghdadi (1121-1213 AD): In his book *Al-Mukhtar fil Tib*, he described the treatment of *Shaqqeqa*. He stated that *Shaqqeqa* is a type of *Suda-e maddi* and advocated about *habbe Qoqaya* in its treatment³⁰.

Samarqandi (Sahib Al Asbab Wal Alamat) (1232 AD): stated that a migraine is a type of a headache which occurs in one part of the head, not involving the whole head, because the morbid matters are negligible in amount. Being in the arteries of the skull, the weaker part of the head accepts it^{20,31}.

Akbar Arzani (17th century AD): In his book, *Tibb-e Akbar*, described that its name is due to its site of the pain. He stated that the *bukharat* (vapors) from the whole body or any organ ascends to the head and accumulates into the weaker side of the head or the morbid humor or *riyah* (flatus) in arteries accumulate to the painful side of head³².

Hakeem Mohd Azam Khan (1813-1902 AD): In his book *Al-Akseer* he elaborated the explanation of *Shaqqeqa*. He described the etiology, clinical features, diagnosis, management, treatment, and its complications. He stated that the accumulation of

bukharat (vapors), morbid humor or flatus to one side of the head causes a migraine and if not treated properly it may lead to cataract and defect in vision²².

Hakim Ajmal Khan (1927 AD): In his book *Haziq*, he stated that the initial pain of a migraine is mild but after sometimes the pain becomes severe. The patient likes to be in darkness and hate glare light. Nausea along with pulsating type pain is present³³.

The Hippocratic/Galenic concept of a migraine survived till the 17th century when Thomas Willis in 1664 published his hypothesis that ‘megrin’ was due to dilatation of blood vessels within the head (the first enunciation of a vascular theory). In the years to follow, migraine intensity was decreased by a compression of the superficial temporal artery.

In the 19th century, however, the vascular origin of migraine was undermined by a conflicting theory that the prime event was a neurological dysfunction. Towards the end of the 19th century, attempts were made to reconcile both theories. Thus, Moebius stated in 1898 that parenchyma is the master, circulation the servant and that both brain and blood vessels dysfunctions were necessary to produce an attack of a migraine¹⁰.

Manuscripts have survived of Hildegard of Bingen (1098-1180): a nun and mystic of exceptional intellectual and literary powers, who was able to replicate her “visions” and left detailed drawings and written accounts of what she experienced. Because the description is so detailed, it gives conclusive evidence that a migraine caused her visions²¹.

Thomas Willis pioneered the term “neurology” in 1672. He made amazingly precise observations of migraine and was aware of the many grounds of migraine attacks, including heredity, changes of season, atmospheric states, and diet. Then in the late 1770s, Erasmus Darwin (the grandfather of Charles Darwin), put forth that headaches were caused by vasodilatation.

Gowers stressed the importance of a healthy diet in the treatment of a migraine in his book “*A Manual of Diseases of the Nervous System.*”

In 1930 Harold Wolffe was the first person in the history of neurology, who studied about a headache in his laboratory. He performed many experiments in his laboratory, which supported the vascular theory of a headache.

In 1960 research started at Prince Henry and Prince of Wales Hospitals, Sydney regarding a migraine and other types of headaches. These studies helped to explain the pathology of vascular dilatation and its relation with throbbing in a migraine²¹. The discovery that chemical agent serotonin was discharged from blood platelets at the onset of a migraine explained a report from America that the intravenous injection of serotonin caused a headache²¹. It is controversial that a migraine is a new disease or just it is newly named. The symptoms suggested that migraines are the oldest diseases known to mankind. Plato is considered one of the all-time great thinkers of the world and great philosophers. It looks that the concept of migraines according to Plato is as he is wrong about so many things.

Hua T'o was a Chinese surgeon in the second century who was given credit for the invention of anesthetic drugs among other things. He was perhaps the first to take to acupuncture needles to cure migraines. Centuries, if not millennia, from now people may be reading a history of migraine treatment and shake their head when they reach the 21st century¹⁹. A variety of methods have been used throughout the ages in an attempt to alleviate or cure a headache. These may have been the most appropriate at that time, and were probably seen as "cutting edge." Today these seem amusing and at most horrible and barbaric. The oldest concept of a migraine was those of the supernatural, with a migraine supposed to be due to malicious beings within the cranium. The treatment based on this idea included invocation and application to the head of substances proposed to drive out the evil spirit³⁴. However, very recent evidence (stated below) has shown that drugs which exclusively block neurogenic plasma extravasation in rats (without vasoconstriction) do not have antimigraine action in humans!

The Present Stalemate: Admittedly, there is no solid evidence thus so far, to categorically exclude the vascular or the neurogenic theories of migraine,

considering that all acute antimigraine drugs invariably produce both cranial (carotid) vasoconstriction (shown in animals and humans) and inhibition of the trigeminovascular system (centrally and/or peripherally; shown only in rats and guinea-pigs)^{35,36}.

Besides norepinephrine and acetylcholine, immune histochemical studies have demonstrated the presence of several vasodilator transmitters in perivascular nerves, supplying intracranial blood vessels including 5-HT, vasoactive intestinal peptide (VIP), nitric oxide, substance P, neurokinin A, and CGRP. Nitric oxide may be involved in migraine pathophysiology, and inhibition of its synthesis seems to be of therapeutic relevance^{37,38}. The drugs used in the management of a migraine may be classified into two groups: The agents that eradicate an acute migraine, such as ergotamine and sumatriptan and agents aimed at its prevention such as methysergide^{18,39,40}.

CONCLUSION: Migraine aetiopathologies, clinical features, and treatments have been described since centuries by many physicians. Their writings, from ancient times to the present, represent the evolution of scientific thought, with a migraine metamorphosing from a disease of supernatural causes to a molecular disorder. With this long history, it is really surprising that effective antimigraine drugs had been, until very recently, limited in number.

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