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COMPARISON OF CHAPTER OF ANATOMY IN "HEDAYYAT OL-MUTAALLEMIN FIT-TIBB" OF ABUBAKR AL-AKHAWEYNI'S ANATOMY WITH GRAY'S ANATOMY BOOK

Key words: History of medicine, Abu Bakr Akhaveyni, Grey, parts of body, dream, sport, hygiene, anatomy, Hidayyat ol-Mutaallemin.

Açar sözlər: Tibb tarixi, Əbu Bəkr Əxəveyni, Qrey, bədən üzvləri, yuxu, idman, gigiyena, anatomiya, Hidayətül-Mütəəllimin.

Ключевые слова: История медицины, Абу Бекр Ахавейни, Грей, части тела, сон, спорт, гигиена, анатомия, Хидаят аль-Мутааллимин.

This book was the first medical book in ancient Persian that was written by Abubakr Al-Akhaveyni in the fourth century (A.H). "Mojtaba Minavi" published it in memory of 1100th birthday of "Mohammad Zakariya Razi" with help of "Dr.Jalal Matini" from handwriting version in Oxford (Badliyan), this volume consists of introduction about text.(1, 8)

The author of this book was a student of Razi (2, 20-23). He pointed that all subjects mentioned in this text are true because he examined accuracy of them.(2, 20-23) These subjects have been confirmed and quoted with little changes in expression in medical books. The author counted and corrected dissection mistakes of Galen, other masters and even Razi.

This book was written in Persian language by simple and brief explanation; in case of necessity other books had been referenced, so referring to main text and comparison with new text is possible. (2, 20-23)

Anatomical words are clear and in some cases English and Arabic equivalents have been used. (2, 1-6)

In Gray's anatomy book subject matters of «Hedayyat ol-Mutaallemin fit-tibb» have been compared and following common points have been extracted:

A) Bones (Skeleton):

After counting of bones and cartilages and offering simple shapes of joints and bones, he wrote:

In the bottom of carpus, there are four long and narrow bones called "Shane posht" in Persian and "Azame al-Masht" in Arabic" (Metacarpus). (2, 46)

Metacarpus are four bones and phalanges are three, as you know from embryology point of view, metacarpus are similar to primary phalanges; this subject has been addressed currently.

B) Nerves:

One of these nerves is right and left vagus in neck..., that causes movement and sense..., it leads toward chest, stomach and viscera..., other part of nerves are located in Larynx. Anatomists called it superior laryngeal, this nerve functions for movement and sense in larynx. (2, 52)

Laryngeal recurrent was discovered by Galen, so attention of Akhaveyni to sensory nerves is new subject. Avicenna explained the direction, vicinity and difference of right and left laryngeal recurrent. (2, 60)

This is a nerve that begins from coccyx and leads to genital organ, anus; function of this nerve is sense and movement of upper organs. (2, 53)

Dissection of Sacral and Coccyxinal nerves and erectile is impossible without exact dissection of pelvis and perineum, anatomists could not understand this explanation of Abubakr al-Akhaveyni.

C) Muscles:

Now, I can mention the muscles counted by Galen without counting the number of muscles (8, 60), without practical anatomy, it is impossible to count the number of muscles. So, in our opinion, if there is no reference to autopsy in «Hedayyat ol- Mutaallemin fit-tibb» book, we can say that Abubakr al-Akhaveyni and Muslim physicians dissected the body of dead persons.

There are four muscles on penis and bladder to control urine, there are two muscles and anus to control stool. (2, 62)

This statement shows that the author knew the anatomy of perinea and anal and urethral sphincter.

This Vaclav superior leads to diaphragm and is distributed there then leaves diaphragm, it is divided into fibers and it is called medistinum (Hegab al-Fasel be nesffeyin). (2, 63)

Although as mentioned by Galen the direction of vessels are dissected from liver to other organs (it is mistake), it shows that ten centuries ago the vascular system was recognized.

When this part of inner carotid reaches encephalon a wonderful body is created called "Shebki" and it is distributed in brain. (2, 69)

After Abubakr al-Akhaveyni, Avicenna explained Willis aorta so Abubakr al-Akhaveyni was skillful in dissection of skull.

But there is an artery in throat which is originated from encephalon; if this artery is blocked the person will be unconscious and in continues he will die. (2, 70)

Carotid artery is divided into branches; external carotid leaves skull and internal carotid enters skull. There is a receptor in this junction that is sensitive to blood oxygen and pressure. In Abubakr al-Akhaveyni's opinion, it is sensitive to pressure and in this case leads to unconsciousness and it is called sleep so, according to direction of vessel emphasized on accuracy of Abubakr al-Akhaveyni in dissection.

D) Eyes:

Eyes are organs for seeing and some organs help this function. (2, 75-77)

Origin of this organ is nerve. (2, 75-77)

Origin of choroids and Iris is pia mater and origin of this hard organ is dura mater. (2, 75-77)

Anatomy of eye in this book is conformed to update information so mentioned statement indicates the skill of Abubakr al-Akhaveyni (3, 22-27). He was experienced in microanatomy, embryology origin of Iris and choroids in period when there was no means except touch and thoughts.

This study shows that Iranian physicians played an important role in medical history of Iran. In spite of lack of diagnosis equipments, they were skilled in collection of medical subject matters and they used complied information in order to diagnosis and treatment of patients.

8th-12th centuries (A.C) was golden age of Islamic civilization, scholars like Ahvazi, Razi, Abubakr al-Akhaveyni, Avicenna, Jurjani obtained achievement of India, China and Greece medicine course after 12th century. This science continued in India and China. The latest book is "Mansouri's anatomy" by "Mansour Ebn Fagieh Ebn Elyas" in period of safavid. There are pictures and images in this book so, this is the first anatomy atlas.

The dissention and anatomy sections of «Hedayyat ol-Mutaallemin fit-tibb» book are eloquent and these subjects are compared with Gray's anatomy book that indicates ability, struggle, creativity and skill of Iranian scientists like Abubakr al-Akhaveyni. In order to recognize and employ other works of these scholars, more studies in this relation are necessary.

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İranda tibb tarixi İslam təbabəti ilə sıx bağlıdır. Bu cəhətdən tibb tarixində İran həkimlərinin rolu böyük olmuşdur. Bu həkimlərdən biri “Hidayətül-Mütəəllimin fit-tibb”in müəllifi Əbu Bəkr Rəbi ibn Əhməd Əbu Bəkr əl-Əxəveyni əl-Buxaridir. Onun kitabı hicri IV əsrdə qədim fars dilində yazılmış ilk tibbi mənbədir. Kitab 200 fəsildən ibarətdir. Birinci fəsil bədən üzvləri, ruh, yemək, içkilər, süd, yuxu, idman, sakitlik, ürək bulanması, bədən üzvlərinin funksiyaları, gigiyena və s. kimi mövzuları əhatə edən 51 bölümdən ibarətdir.

Bu məqalədə Əxəveyninin tibbi baxışları araşdırılmış və onun “Hidayətül-Mütəəllimin fit-tibb” əsəri ilə Qreyin “Anatomiya” kitabı arasında müqayisəli təhlillər aparılmışdır.

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История медицины в Иране связана с исламской медициной. В этом отношении иранские медики сыграли важную роль. Одним из таких медиков является Абу Бакр Раби ибн Ахмед Абу Бакр аль-Ахавейни аль-Бухари, автор «Хидаят аль-Мутааллимин фит-тибб». Эта книга была I медицинским источником на древне-персидском языке, написанном в IV веке. Эта книга состоит из 200 глав, I глава состоит из 51 раздела о частях тела, душе, еде, напитках, молоке, спокойствии, зарядке, сне, рвоте, функциях органов тела и гигиене.

В данной статье прослежены медицинские взгляды Ахавейни и проведен сравнительный анализ между произведением «Хидаят аль-Мутааллимин фит-тибб» и «Анатомией» Грея.

Rəyçi: t.e.d. F. Ələkbərli, t.e.d. S. Məmmədov

AMEA Əlyazmalar İnstitutunun elmi Şurasının 24 dekabr 2010-cu il tarixli iclasının qərarı ilə çapa məsləhət görülmüşdür (protokol № 14)