

Human Anomalies in the Most Celebrated Arabic Islamic Medical Books (Part 2)

En Ünlü Arap İslam Medikal Kitaplarındaki İnsan Anomalileri (Bölüm 2)

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ABSTRACT Introduction: Congenital anomalies in human is well known since prehistoric man, but it is believed now that these anomalies are continuously increasing in their incidence on one side and in their differences on the other. **Objective:** To identify the most important congenital anomalies in human, according to what was written in the most important old Arabic medical books during the Arab Islamic civilization era. **Material and Methods:** The historical method was followed in this research, by going back to some important old Arabic medical books, mainly al-Hawi and al-Taqseem Waltashjeer books of Rhazes, al-qanun fi al-tibb book of Avicenna, and al-Tasreef book of Albucasis. Then, a comparison study of these anomalies were done with what is currently known in modern medicine. **Results:** 1- Old Arab physicians knew some congenital anomalies in human, and they talked about in their books. 2- Arab physicians distinguished between two types of hydrocephalus; congenital, which its cause is unknown, and acquired such as resulted from mid-wifery trauma. 3- Arab physicians talked on the treatment of two types of urethral anomalies. 4- Arab physicians did not mention to some anomalies currently known, such as cleft palate. **Conclusion:** Old Arab physicians talked in their books on some congenital anomalies in human, and in some cases they determined their treatment either surgical or non-surgical. But they did not mention to some anomalies well know now.

Keywords: Congenital human anomalies; Razius; Avicenna; Albucasis; Arabic medicine; Islamic medicine

ÖZET Giriş: İnsanın doğumsal (konjenital) anomalileri en eski çağlardan beri bilinmektedir ancak bunların hem sıklığının hem de farklı türlerinin arttığı da düşünülmektedir. **Amaç:** Arap İslam medeniyeti döneminde en önemli eski Arap tıp kitaplarında yazılmış bilgilere göre insanda görülen en önemli konjenital anomalileri belirlemek. **Gereç ve Yöntemler:** Bu çalışmada, tarihi yöntem izlenmiş ve başta Hawazi ve El-Taqseem Waltashjeer'in Rhazes olmak üzere İbn-i Sinan'ın el-kaun el-tibb kitabı ve El-Tasreef in Albucasis olmak üzere bazı önemli eski Arap tıp kitaplarından yararlanılmıştır ve daha sonra bu anomalilerin karşılaştırması modern tıp kitapları ile yapılmıştır. **Bulgular:** 1- Eski Arap hekimler de insanda bazı doğuştan gelen anormallikleri biliyorlardı ve kitaplarında bu konulardan bahsetmişlerdir. 2- Arap hekimler hidrosefalusun iki tipini tanımlamışlardır: konjenital, nedeni bilinmeyen ve ebelik travmasına bağlı olarak edinilen. 3- Arap hekimler iki tip üretral anomali olduğunu düşünmüşler ve tedavi etmişlerdir. 4- Arap doktorlar yarık damak gibi günümüzde bilinen bazı anormalliklerden bahsetmemişlerdir. **Sonuç:** Eski Arap hekimler kitaplarında bazı doğumsal anomaliler hakkında konuşmuşlar ve bazı vakalarda tedavi yöntemlerini cerrahi veya cerrahi olmayan olarak belirlemişlerdir ancak şu an tedavisini ve sebebini çok iyi bildiğimiz anomalilerden bahsetmemişlerdir.

Anahtar Kelimeler: Konjenital anomaliler; Razius; Avicenna; Albucasis; Arap tıbbi; İslami tıp

The incidence of congenital anomalies in the human body is as old as human on the surface of the Earth, but it is widely believed now that the occurrence of these deformities in steadily increasing in terms of increased occurrence and diversity of those distortions. There is no doubt that the reasons for such an increase from what is known, and most still un-

known until now. Perhaps the most known causes are environmental factors, and radiation which is on top of those factors. It justification research is to highlight the anomalies affecting the human body kept me mentioned in the more celebrated Arabic medical literatures.

The importance of research: as yet, as far as I know, it hasn't been a scientific study documenting such a subject of abnormalities of the human body in the books of Islamic Arab medical heritage, but there is one study I've made under the name: congenital anomalies in Avicenna medicine. In order to take the topic of holistic character, saw that it was necessary to make the most comprehensive such study.

Aim of the research: research aims to demonstrate the role played by some old Arab physicians, and the extent of their contribution in the field of congenital anomalies affecting the human body, and its treatment. As to the second objective of this study is to identify the quality of these deformities, which were known at that time, and the frequency of occurrence of it if the information is available, it can be a simple comparison between what was common at that time, and what is common today, and therefore may reach to know some real causes of congenital anomalies afflicting humanity today.

Research methodology: the historical recovery method were used, by reference to the ancient Arabic medical books. Indeed, I went back to a lot of those books, and many of them have found in repetition, same as previous books reported; for example, Ibn-Hubal al-Baghdadi in his book titled (anthology in medicine), is no different than Avicenna said in his book the al-qanun fi al-tibb, also said Ibn-Zuhor in his book al-Tayseer, is echo to what mentioned before. So, it's all found wise return to four main references: al-Hawi book, and al-Taqseem book of Razius, al-qanun fi al-tibb book of Avicenna, and al-Tasrif book of Albucasis.¹⁻⁴

V- URETHRAL DEFORMITIES

Urethral deformities manifest in two forms:

1. Imperforated glans, or what we call today the obstruction of the urinary meatus. Albucasis

says: "some of the boys could get out of their mother's womb as the urinary meatus is not pierced, it should initiate foramen immediately, generated by very thin scalpel, then put in the hole a pin of lead and tying it and hold it for three or four days, when he want to urin, it will be removed, then to be put again. If you don't put such pin of lead, the foramen could close again. Either you have a narrow foramen addresses shot as we said so many days fit".² It is well known that this deformity is rare and difficult to be treated.^{5,6} And in this case Albucasis and Avicenna mentioning to use a very accurate scalpel. In fact, most cases cannot currently treated in this simple way.

2. The second deformity is the hole is not in its normal position, in what is called Hypospadias. Albucasis says: "to whom is born and the end of the hole is down, couldn't micturate to before even raises the urethra with his hand up, and not born to him by that sperm cannot reach the uterus on straightening and bug, and this is very ugly, and in this case you have to lie down the patient on his back and then extend as his hand and tide left justification urethral header or a sharp scalpel blade you take high pen, save when your business from bloodletting, often presents it applicable to blood and trat the wound untill it cured".²

Currently, hypospadias is one of the most common defects in the urinary tract. Albucasis and Avicenna conducting what they called a sharpining the urethral header or a sharp of the head of the urethra. Currently, this deformiy is treated by urethro plasty operation, according to the place of urethral orifice.⁷

VI- HIP DEFORMITY

Among the whole Muslim physicians, only Avicenna talked about this deformity.

In talking about hip, Ibn Sina refers to this dislocation might happen since birth. He says: "if it (hip) happened at birth a short leg with failed fetal leg unable to carry the body and strengthens".¹ Avicenna here refers to the possibility of a dislocated hip during childbirth, like refers to congeni-

tal hip dislocation. But as for the description of the limb as short and unable to carry the body, this description applies to hip dislocation caused by polio myelitis infection shortly after birth, congenital hip dislocation doesn't cause leg weakness and inability to carry the body.⁸

VII- HERMAPHRODITISM

Most of Arab and Muslim physicians talked about Hermaphroditism. Avicenna says: "who is the she-male of his not men member and member of the women, in whom it both, but one concealed and hidden and weaker or controversial. And urinates of one without the other, and both of them both. I have been informed to whom do sex and done with him, but I seldom believe that author, and is often treated with surgery by amputating the smaller member."¹

Albucasis says: "Hermaphroditism in men has two types; one it shows following the scrotum or in the scrotum which likes a woman's vagina it felt. In women, one type and be above the vulva on pubic kemzakir men junior never get bearer outside, one like a man and two as two females."²

That kind of Hermaphroditism which Albucasis talked about, and seen at males, and seems such as of vagiba with hair, while urin appear from really form of urethra panties, placing the muzzle of the urethra in the scrotum, Actually, this is not a situation cases of Hermaphroditism.

Currently according to modern medical data, there are two types of Hermaphroditism:

1. Actual Hermaphroditism: where the affected person has two ovaries and two testises, with double genitalia at the same time (this form is referred to by Avicenna as described above), but are often bad evolution and growth. This form of Hermaphroditism is very rare and rarely mentioned of it in the history of medicine.

2. False Hermaphroditism: females Hermaphroditism have feminised sex glands, thus the evolution of the Muller channel is naturally remains, but they have resemble the male genitalia, excessive growth of the clitoris resembles the penis, big

outer labia will react, so be like scrotum and hidden behind the vaginal entrance.

VIII- HYMEN DEFORMITY

The condition of imperforated hymen is relatively frequently encountered. Having talked about in detail Avicenna said: "women with imperforated hymen either on the mouth of her vagina a thing prevent intercourse or every thing as muscle or strong membrane, or there is a fusion of sores or about his creation, either stinky mouth of the uterus and vagina mouth on one of these faces. And might jeopardize ongoing starting menstruation that finds an outlet for one of these reasons, presents her severe pain and a great scourge."¹

Albucasis says: "imperforated hymen is to be a woman's vagina is impierced, or have a small hole. And either have a natural breed, either accidentally, accidental be done is made from peritoneum fluffy or thick and either be deep in the womb or at his sides and either above or below it and prevents from intercourse and pregnancy and birth, and perhaps prevent menstruation".²

Now, it is known that imperforated hymen might not manifest with any sign until adulthood where symptoms begin with menstrual blood does not appear (because of the obstruction), and periodic symptoms of pain lasts for several days and then gradually disappear, and each time getting blood sequestered behind a bloody tumor component occlusion stretches the vagina, then don't respond it extends the hematoma to the cervix and uterus, and becomes a pain then sustained with regular menstrual days approve intensified during menstruation. This condition currently treated by surgical incision of the hymen and drain the blocked all haematoma.^{8,9}

IX- ANUS DEFORMITY

Represented by what is now called imperforated anus. Albucasis says: "may some boys to born and their anus not pierced as peritoneum exist. The midwife remove it with her finger, or with a sharp scalpel, and should be careful not to injure the muscle..."²

It is noted that Avicenna has devoted an entire chapter to talk about the diseases of the anus, but he never talked about the imperforated anus. The same is true for Rhazes.

Currently, imperforated anus is well known deformities, happen by 1/4500 births.⁶ Two types: high and low type. Low type is the type Albucasis talke about, which is easy to diagnose and treat, with good results.

X- FINGERS DEFORMITY

Represented by two types:

Polydactylism: Avicenna has referred to this deformity in speaking about the disease, causes, symptoms, says: "either the number diseases either increase in number, either natural, such as deformed teeth and extra finger, or abnormal as tumors and gallstones. Or decrease in the number, whether a decrease in course as absence of a finger or a decrease not originally, such as a cut finger".¹

Syndactylism: No mention of this deformity both Razi, and Avicenna. Albucasis initially classifies syndactylisim into two categories by cause, including congenital or acquired caused by wound or burn. The recommended treatment mentioned by Albucasis to make incision. This may be the only Arab doctor at that time mentioned and described the State of syndactylisim and the way of treatment".² Currently it is well known to treat this deformity is by surgery, and close to what Albucasis mentioned.⁸

RESULTS

Through this research we were able to reach the following results:

1. Muslim doctors distinguished between two types of hydrocephalus, congenital type which occurs due to an unknown cause, and acquired type as caused by birth trauma. Also has differentiated between two types of moisture collected; including meets between skin and bone (which is in fact here is a subcutaneous hematoma and not Hydrocephalus), which meets between the bone and the matters (which represents real hydrocephalus of

the brain) and the brain sutures spacing mark. Either ways were treated by a decision above the gathering place moisture, then pledge the wound by applying ointments until healed.

2. Muslim doctors talked about two types of abnormalities that occur in the urethra; first, imperforated glans, or what we call today the obstruction of the urinary meatus, currently known to be very rare deformity is mostly difficult to be treated. In this case they pointed to make hole urethra using a very accurate scalpel. The second is that the hole in the urethra is misplaced, in what we call hypospadias, which is the most common birth defects in the urinary tract. This situation was treated by what they called sharpen the urethra head by a scalpel. Currently, this deformity could be treated by urethro plasty operation, according to the place of urethral orifice (glans hypospadias, urethral hypospadias, scrotal hypospadias, perineal hypospadias).

3. Muslim doctors talked about one of the deformity affecting women, what is called now imperforated hymen, which is relatively frequently encountered. And they had talked about it in detail. They pointed out that the treatment of this condition is to price this membrane by finger, either if it is thick, a wide scalpel should be used.

4. Muslim doctors mentioned to polydactylism condition, referring to different types of extra finger depending on their shape and location. For treatment they advised by first cutting skin pieces round till reaching the bone, and bone is cut by using one of the saws. This is very close to what is used today as the extra finger amputation. As they talked about the case of syndactylism, ruled into two categories by reason, congenital or acquired because of a healed wound or burn. For treatment they advised to make incision of this uniuon.

5. Muslim doctors did not mention some congenital currently known deformities, such as cleft lip. This requires extensive studies on this subject, to determine the possibility that certain factors in the environment as radiation and medications and other factors, may be behind the cause of this deformity.

CONCLUSION

Through this research, it was clear the role played by some old Arab and Muslim physicians and the extent of their contribution in the field of congenital deformities affecting the human body, and their treatments. In some cases they determined the types of treatment either surgical or non-surgical. But it was clear that they had failed to talk about some of the currently known abnormalities, as likely environmental and medicinal causes behind these current deformities.

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Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

Authorship Contributions

Idea/Concept: Abdul Nasser Kaadan; **Design:** Abdul Nasser Kaadan; **Control/Supervision:** Abdul Nasser Kaadan; **Data Collection and/or Processing:** Abdul Nasser Kaadan; **Analysis and/or Interpretation:** Abdul Nasser Kaadan; **Literature Review:** Abdul Nasser Kaadan; **Writing the Article:** Abdul Nasser Kaadan; **Critical Review:** Abdul Nasser Kaadan; **References and Fundings:** Abdul Nasser Kaadan; **Materials:** Abdul Nasser Kaadan.

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