

# Al-Zahrawi and His Ethical Principles in His Surgical Practice

## Ez-Zehrâvî ve Cerrahi Uygulamalarındaki Etik İlkeleri

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**ABSTRACT** Abul-Qasim Khalef ibn Abbas Al-Zahrawi was either one of the most important physician and surgeon of the 10th century or the founder of surgery in Europe with his monumental treatise *Al-Tasrif*, which was the book quoted many times by many physicians and surgeons such as Roger of Salerno, William of Saliceto, Lanfranchi of Milan, Henri de Mondeville, Guy de Chauliac, Leonard of Bertapalia in West Medieval Age. Subsequently, Al-Zahrawi has been ranked with Hippocrates, Galen, Celsus, and Paulus Aeginata in early medical history. Al-Zahrawi's book was not only illustrated surgical practice pilot but also an important surgical and ethical guide to young surgeons. In order to find out Al-Zahrawi's opinions and principles regarding physician-patient relationship and his ethical understanding in his surgical practice, the prefaces of the first and second books of his treatise on surgery should be considered. In the beginning of treatise he explained the reason why he wrote this surgical treatise and added to his work. His insistence for a surgeon to study and learn anatomy well is one of the conditions which are almost universal in a surgeon and physician's training. The second one is to evaluate patient carefully and then to decide for surgical intervention. If there is no hope for a patient's illness and no surgical indication for treatment, Al-Zahrawi warns surgeon not to perform surgical intervention with greed and desire for gain. Al-Zahrawi's opinions and principles extracted from his *Al-Tasrif* were briefly presented and discussed in this article.

**Key Words:** Al-zahrawi; al-tasrif; medical ethics; history of medicine; surgery

**ÖZET** Ebu'l Kasım Halef İbn Abbâs ez-Zehrâvî 10. yüzyılın en ünlü tabiplerinden ve cerrahlardan birisidir. Batı Ortaçağ'da Salerno'lu Roger, Saliceto'lu William, Milan'lı Lanfranchi, Mondeville'li Henri, Bertapalia'lı Leonard ve Guy de Chauliac gibi hekimler ve cerrahlarca pek çok kez alıntılanan anıtsal eseri *et-Tasrif* aracılığı ile de Avrupa'da cerrahinin en önemli kurucularından birisi olmuştur. Bunun sonucu olarak Zehrâvî erken Ortaçağ tarihinde Hipokrat, Galen, Celsus ve Aegina'lı Paul gibi hekimlerle aynı derecede önemli sayılmaktadır. *Et-Tasrif* hem resimli ve cerrahî uygulamalarda yol gösterici bir kitap, hem de genç cerrahlara etik kılavuzluk yapacak bir eserdir. Zehrâvî'nin hekim-hasta ilişkisi hakkındaki düşünceleri ve prensipleri ile cerrahi uygulamalarındaki etik anlayışını *Et-Tasrif*'in cerrahi tezinin birinci ve ikinci kitaplarının önsözlerinde bulmak mümkündür. Önsözün girişinde, Zehrâvî'nin bu cerrahi tezi neden yazma gereği duyduğunu ve eserine neden eklediğini açıkladığı görülmektedir. Anatominin iyi çalışılması ve öğrenilmesi bir cerrahın ve hekimin eğitimindeki evrensel koşullardan birisidir. İkincisi ise hastayı dikkatle değerlendirip sonra cerrahi için karar vermektir. Zehrâvî, eğer hasta için umut ve tedavi için cerrahi bir girişim endikasyonu yoksa, kazanç hırsı ve açgözlülük nedeniyle cerrahi girişim yapmaması için cerrahi uyarılmaktadır. *Et-Tasrif*'ten çıkarılan bilgilerle Zehrâvî'nin hasta-cerrah ilişkileri hakkındaki düşünceleri ve prensipleri bu makalede kısaca sunulmuş ve tartışılmıştır.

**Anahtar Kelimeler:** Ez-zehrâvî; et-tasrif; tıbbi etik; tıp tarihi; cerrahi

**A**bul-Qasim Khalef ibn Abbas Al-Zahrawi (?936-1013) was one of the most important physician and surgeon of the 10<sup>th</sup> century. His name, Abul Qasim, in transliteration to Latin and then English became “Abulcasis”. “Albucasis”, another spelling, is commonly found.<sup>1</sup> He is also known as “Alzaharavius Bulcasem”, “Azaravius”, “Azaraguius”, “Altaričius” and “Alzaragius”.<sup>2,3</sup> Al-Zahrawi refers to the family name, often derived from the name of the village of his birth (Al-Zahra) on the Spanish peninsula.<sup>1</sup>

He firstly became the court physician of Caliph Abd al-Rahman al-Nasir III and then of al-Hakem II of Umayyad rulers of Spain.<sup>2,4</sup> His outstanding contribution on medicine is the encyclopedic work “*Kitab al-Tasrif li-man Ajaza an al-Talif*”. A literal translation of this title of his compilation of the treatises is “The book enabling him who cannot cope with the compilation.”<sup>1</sup>

His *al-Tasrif* completed about 1000 AD was the result of almost fifty years of medical education and experience, which he underlined their importance in the third book of the surgical section of *Al-Tasrif*. In his own words:

Whatever skill I have, I have derived for myself by my long reading of the books of the Ancients and my thirst to understand them until I extracted the knowledge of it from them. Then through the whole of my life I have adhered to experience and practice. So now I have described for you in this book all that my knowledge has encompassed on the subject and that my experience has encountered; I have made it accessible for you and rescued it from the abyss of prolixity; I have reduced it to a brief outline; and have explained it most clearly.<sup>5</sup>

*Al-Tasrif* comprises 30 discourses. The 30<sup>th</sup> and final treatise, which focuses on surgery, became the most famous and had by far the widest and the greatest influence translated into Latin by Gerard of Cremona (1114-1187) and it went into at least ten Latin editions between 1497 and 1544. *Al-Tasrif* also contains the earliest picture of surgical instruments in history; about 200 are described and illustrated.<sup>5</sup> This treatise on surgery is divided into

three books and introduction sections of the first and second books contain Al-Zahrawi’s principles in approaching patients who need surgical treatment.

This surgical treatise has been translated from original Arabic text into Latin, Turkish, Hebrew and French.<sup>1</sup>

## AL-ZAHRAWI'S ETHICAL UNDERSTANDING IN HIS SURGICAL PRACTICE ACCORDING TO *AL-TASRIF*

In order to find out Al-Zahrawi’s opinions and principles regarding physician-patient relationship and his ethical understanding in his surgical practice, the prefaces of the first and second books of his treatise on surgery should be considered. In the beginning of treatise he explained the reason why he wrote this surgical treatise and added to his work. He pointed out that the skilled practitioner of operative surgery was totally lacking in his land and time; so that the knowledge of it was on the point of being blotted out and it remained lost. He continued that there was nothing left of it except a few traces in the books of the Ancients; where, however, it had been so corrupted by the hands of scribes, and subjected to error and confusion, that its meaning had become obscured and its value diminished. So, Al-Zahrawi told that he decided to revive this art by expounding, elucidating, and epitomizing it in this treatise; and to present the forms of the cauterizing irons and other operative instruments.<sup>5</sup>

Al-Zahrawi’s answer to the question why the skilled surgeon was absent is important and characteristic for contemporary surgical understanding, as well:

The art of medicine is long and it is necessary for its exponent, before he exercises it, to be trained in anatomy as Galen has described it, so that he may be fully acquainted with the uses, forms, and temperament of the limbs; also how they are jointed, and how they may be separated; that he should understand fully also the bones, tendons, and muscles, their numbers and their attachments; and also the blood vessels, both arteries and veins, with

their relations. And so Hippocrates said: 'Though many are doctors in name, few are in reality, particularly on the surgical side.' We have already spoken of this in the introduction to this book. For he who is not skilled in as much anatomy as we have mentioned is bound to fall into error that is destructive of life. Thus I have seen many laying claim to this knowledge and boasting of it, but having neither knowledge nor experience.<sup>5</sup>

Al-Zahrawi's approach that operative surgery, which was divided into two parts, is found in the preface of the second book and it is rather interesting: the first part where operation was associated with the health of the patient, and, the second one, where it was for the most part fraught with danger. According to Al-Zahrawi, the prior condition of avoidance from the part fraught with danger of surgery and of practicing surgery was to study and learn anatomy well. Al-Zahrawi advised a surgeon to show caution and care for himself and gentleness and perseverance for his patients.<sup>5</sup>

Al-Zahrawi's one of the most important suggestions regarding the way of bringing the patient a good outcome is to evaluate patient carefully before surgical intervention and not to perform surgical operation unless having positive knowledge. We find out its reason in his words:

For in the course of the work of which this book treats there often occurs an effusion of the blood upon which life depends, in the opening of a blood-vessel or the incision of a tumour or the perforation of an abscess or the treatment of a wound or the extraction of an arrow, or in the incising for a calculus or similar cases; all of which are accompanied by uncertainty and fear; and in most death will supervene. So I warn you against under-taking any case in which there is any element of doubt to you.<sup>5</sup>

Al-Zahrawi presents the principles of surgeon-patient relationship according to surgeon's point of view:

For in the exercise of the art you will be mobbed by all kinds of persons with all manner of afflictions; some being so weary of their sickness that death itself is a relief on account of the extent of

their sufferings and the length of their miseries, their illness being so settled as to presage death. Some will lavish their wealth on you and enrich you, in the hope that they may be curable, when their disease is mortal. You should not assist any of this kind who approach you; let your caution be stronger than your greed and desire for gain.<sup>5</sup>

Another characteristic understanding special to his era is also valid for al-Zahrawi, as well: "Illnesses that are very threatening or difficult to cure, leave alone."<sup>5</sup>

## CONCLUSION

Al-Zahrawi's insistence for a surgeon to study and learn anatomy well is one of the conditions which are almost universal in a surgeon and physician's training. A deficiency in training of a surgeon or a physician may be cause of different harmful effects, even death of the patient. The second one is to evaluate patient carefully and then to decide for surgical intervention. These are crucial concepts in favor of the patient and harmonious with non-maleficance ethical principle known as "primum non nocere" from Hippocrates (B.C. 460-370).

If there is no hope for a patient's illness and no surgical indication for treatment, Al-Zahrawi warns surgeon not to perform surgical intervention with greed and desire for gain. His "illnesses that are very threatening or difficult to cure leave alone!" order reminds us contemporary "do not resuscitate!" order.

These are some "contemporary ethical principles" presented by a surgeon who lived a thousand years ago. In the light of the knowledge above, we can say Al-Zahrawi was one of the important followers of Hippocrates and Galen such as Abu Bakr al-Razi (865-925), whose ideas were similar with Hippocrates' and Galen's.<sup>6</sup> Al-Zahrawi's monumental surgical work influenced the surgeons such as Roger of Salerno (ca. 1170), William of Saliceto (1210-1277), Lanfranchi of Milan (d. 1306), Henri de Mondeville (1260-1320), Guy de Chauliac (1300-1368), Leonard of Bertapalia (1380?-1460)<sup>4</sup> in West Medieval Age, so he was accepted as the founder of surgery in Europe.<sup>7-9</sup> Subsequ-

ently, Al-Zahrawi has been ranked with Hippocrates, Galen (129-200), Celsus (BC 25-50 AD) and Paulus Aeginata (625-690) in early medical history.<sup>1</sup>

Whenever he needs to call out to other surgeons, he says “*my sons*”. We can finally conclude

that Al-Zahrawi placed himself in authority and deemed himself assigned in order to train and warn young surgeons regarding the hazardous aspects of surgery. This was a certain condition, which was in accordance with paternalistic medical and ethical understanding of his era.

## REFERENCES

1. Al-Rodhan NRF, Fox JL. Al-Zahrawi and Arabian Neurosurgery, 936-1013 AD. Surg Neurol 1986; 26: 92-5.
2. Adivar AA. Ebülkasım Zehrâvî. In: İslâm Ansiklopedisi. 1st ed. İstanbul: Millî Eğitim Basımevi ; 1945. vol 4 p. 87-90.
3. Ağırakça A. İslâm Tıp Tarihi [Başlangıçtan VI./XII.Yüzyıla kadar]. 1st ed. İstanbul : Çağdaş Basın Yayın Ltd. Şti. ; 2004, p. 307 [Turkish].
4. Kayabalı İ. Ortaçağ'ın Ünlü İslâm Cerrahî Ebül-Kasım ve Dünyanın İlk Resimli Cerrahî Kitabı Olan El-Tasrif Üzerine. Ankara Tıp Fak. Mec. 1988; 40: 245-54.
5. Albucasis. On Surgery and Instruments (A Definitive Edition of the Arabic Text with English Translation and Commentary by Spink MS, Lewis GL.). 1st ed. London: The Wellcome Institute of the History of Medicine; 1973. p. 2-6, 166-8, 676.
6. Karaman H. Ebû Bekir er-Râzî ve tıp etiği ilkeleri. Türkiye Klinikleri J Med Ethics 2006; 14: 9-15.
7. Castiglioni A. A History of Medicine. 2nd ed. New York: Alfred A. Knopf; 1958. p. 274.
8. Garrison FH. An Introduction to the History of Medicine with Medical Chronology, Suggestions for Study and Bibliographic Data. 4th ed., Reprinted. Philadelphia and London: W. B. Saunders Company; 1929. p. 131.
9. Meyerhof M. Science and Medicine. In: Arnold T, Guillame A, eds. The Legacy of Islam. 7th ed. London: Oxford University Press; 1952. p. 311-55.