

# SMALLPOX AND MEASLES AS DESCRIBED BY RAZI (LE LIVRE SUR LA VARIOLE ET LA ROUGEOLE)

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The following is an excerpt from the writings of Razi, an original description written in one of the more than one hundred books he has written on medicine.

The name of this book is "Aljodri and Alhasbeh". This is one of the most authoritative writings of Razi, and also one of the most important books of Islamic civilization. Even though it is not voluminous, in it Razi described for the first time the differential diagnosis between smallpox and measles.

Razi has described these two diseases very scientifically. In his book "History of Medicine," A. Castiglioni has said, the most important book of Razi is about smallpox and measles. This was first published under the title "le livre de peste" in Venice in 1498 in Latin. Since then it has been translated and reprinted over 40 times in Basel, Göttingen, London, and Paris. It was published in Arabic in 1872 in Beirut by Van Dyck. The author has translated this book from Arabic to Persian, which was published twice by Tehran University Press in 1965 and 1985.

This book about variola and measles has fourteen chapters, which include etiology, symptoms, complications, treatment and other matters of importance concerning these two diseases. We do not intend to discuss the details of these chapters, but we will present an excerpt from chapter fourteen: "Variola and Varicella, benign and deadly," which contains several interesting points:

The following are some of the complications of smallpox and varicella:

- 1) The safest kind of smallpox is the type with white, large vesicles which are disseminated but few in number. These are not associated with high fever, pain or depression. Also safe are cases in which, with the appearance of the rash, the patient's pain and distress is alleviated.
- 2) Also among the less dangerous types of smallpox is the type in which the vesicles are large. The more the

number of vesicles and the closer they are to each other, the better the prognosis.

- 3) Those cases of smallpox in which the vesicles erupt with difficulty and the patient's general condition does not improve following their appearance are considered "malignant." This form is not dangerous as long as the patient's condition is not poor. If the patient's general condition deteriorates however, the smallpox is considered dangerous.
- 4) There are some types of smallpox with large white vesicles. If the vesicles are confluent and cover parts of the body as a large patch, the disease is considered a malignant and lethal form. In this form, the vesicles become like large round patches with the color of fat.
- 5) Those cases of variola in which the vesicles are very small, confluent, firm, wart-like, and fluidless are malignant and if the patient's condition does not improve and worsens after all the vesicles appear, this form is lethal.
- 6) All cases of smallpox in which the vesicles are greenish, violaceous, or black in color, are of lethal types.
- 7) Shortness of breath (asthma) or faints (syncope) are all grave signs and indicate the most lethal form of variola.
- 8) If fever increases following the appearance of the rash the variola is dangerous but if fever diminishes, it is of better prognosis.
- 9) "Double" smallpox indicates the presence of more toxin; if it is of the safe kinds, its benign nature is less and if it is of grave type, its danger and deadliness is greater.
- 10) The most benign forms of measles are those with less redness (erythema) but those cases with dark colors are the dangerous forms of the disease.
- 11) Types of measles in which the color of the eruptions are green or violet are of the lethal type.

\* Mohammad Zacharia Yahya-bin Al Razi, the great Muslim Iranian physician, was born in Shaaban, 251 (lunar calendar), August, 865 A.D. and died on Shaaban 5, 313 (October 15, 925). Abu ReYhan mentions him as one of the greatest intellectuals of the world of medicine especially in the world of Islam and Iran. In the West, he

is also known as "Razes, Razi, Rhazes, Er-Razi, Arrazi, and El-Razi". From the book: "History of Medicine in Iran from the Islamic Period Until the Attack of the Monghols" by the author, written in Persian.

- 12) If after appearance, the vesicles or rash of variola and measles become depressed inwards and involute, and are associated with severe distress, malaise, or fainting, the disease will be lethal unless the vesicles or eruptions reappear.
- 13) If on the first day of the disease fever develops, smallpox is of the "fast moving" type; if fever develops on the third day it is of the "moderate" type and if fever does not develop until the fourth day it is of "slow" type.
- 14) If vesicles appear in the "benign crisis" it is considered safe, especially if after appearance of vesicles, the patient's condition improves.
- 15) If vesicles begin to adhere and spread and the patient's condition begins to deteriorate and abdominal distension develops, the patient's death is imminent.
- 16) When small vesicles containing little fluid burst and delirium sets in, death is near.
- 17) Whether vesicles and eruptions (in measles and smallpox) are present or not, or appear late, and if they are associated with distress and delirium, the disease is lethal, disregarding the color of vesicles or eruptions. This condition is seen less often in whitish, mature vesicles which become fluid-filled early.
- 18) Of the lethal kind of variola are those in which the patient develops anxiety (excitation), severe pain in the legs and hands or other organs; or if the color of vesicles becomes greenish or darkish and the patient's weakness increases; or malaise (froidure), weakness with intensity of pain and discoloration of the organ exists.  
But if the patient regains his strength, he will recover but the organ or limb will be infected.
- 19) With the onset of pain, if the involved organ is opened (provided the patient is strong enough to tolerate it) this is helpful and can prevent infection. In this case, nothing cold should be close to the organ, rather the organ should be incised or kept warm. This can be done as long as the patient's condition improves after the operation.