


LETTER TO EDITOR

Breast Cancer, a Well-treated Medical Issue by *Rhazes*

Dear editor-in-chief,

Cancer considered as a serious disease in medical textbooks of “*Ancient Persia*”, dates back to thousands of years ago. Among different types of cancer, the diagnostic and therapeutic methods of breast cancer was well-practiced and improved by Persian Medicine (PM) men, with some similarities to what experts do, nowadays, in Modern medicine¹. PM, is one of the most important branches of Complementary and Alternative Medicine (CAM), rooted in more than seven thousand years ago studied by outstanding scientists especially those who lived in the golden age of Islam (9th to 13th century AD)². *Rhazes* is one of the most distinguished PM scientists who lived in this era³. As other PM scientist, *Rhazes* believed that the body structure of human being is built on a four-humor basis, known as “*humoral theory*”⁴. To them, the quantitative and qualitative imbalance of these four humors lead to a variety of diseases, including cancer^{5,6}. The word “*Cancer*” is derived from the Greek word “*Karkinos*”, means crab, named after the apparent similarity of the cancerous masses with

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- 1- Tabatabaei, 2014: 16.
- 2- Ibid.
- 3- Ibid.
- 4- Zargarani, 2014: 307-12.
- 5- Avicenna, 1880: 75, 76.
- 6- Rhazes, 2002: 7-25.



this crustacean⁷. PM scientists, like *Rhazes*, classified cancer in a category of diseases named “*Ouram-e-Solb*”, described as a severe and hard swelling caused by the accumulation, congestion, inflammation, and finally stiffness of abnormal black-bile or “*Soda*” (one kind of four humors) in any susceptible organ, such as the breast^{8,9}. As described in PM manuscripts, this kind of abnormal black-bile is initially produced in the liver and is not purged and purified adequately by the spleen, the organ naturally is responsible for it^{10,11}. A glance at the main medical resources in the past, one can find breast cancer going back to the “*Achaemenid period*” (5000 years ago)¹². By the passage of time, the issue was studied, and the related knowledge improved by prominent scholars such as *Rhazes* (865-925 AD), and Avicenna (980-1037 AD)¹³. As in *Rhazes*' well-known book, “*Liber-Continent*”, cancer in general, is more common in soft tissue-texture organs like the breast¹⁴. Moreover, compared to males, it is more common in females due to the presence of more soft tissue mass, (*Rekhvat-e-abdaan*)¹⁵. All the following descriptions are explained in Table 1.

Table 1: Comparison of Breast Cancer Knowledge between PM and Modern Medicine

Breast cancer in Modern medicine	Breast cancer in Persian Medicine
Breast cancer is the most common malignancy and an important leading cause of morbidity and mortality in women worldwide. ¹⁶	Breast cancer is the most common cancer in women. ¹⁷
Breast cancer risk increases in patients having shorter intervals between menstruation cycles (<i>polymenorrhea</i>). ¹⁸	Breast cancer is more common in women with irregular or inadequate monthly bleeding. ¹⁹
Elevated plasma prolactin level is found in patients with breast cancer especially post-menopausal. ²⁰	There is a relationship between a positive history of persistent milky secretions and breast cancer. ²¹
Breast cancer treatments consist of chemotherapy, radiotherapy, hormone therapy, and mastectomy methods. ²²	Breast cancer treatments include nutritional adjustment, followed by oral and topical drug prescription, and in some cases the surgical procedure. ²³
Consultation with the patients in choosing surgical methods is necessary. ²⁴	Patients have a choice in choosing the surgical procedures. ²⁵
The existence of malignant or wounded mass in the breast tissue is the indication of radical mastectomy. ²⁶	The existence of visible or wounded and infected mass in the breast region is the indication of total breast removal. ^{27,28}
The treatment includes radical mastectomy with regional lymph node dissection. ²⁹	The treatment includes complete removal of breast tissue with the associated surrounding vasculature. ³⁰
Surgical margins should be free of tumor. ³¹	Removal of the hard and abnormal tissue is done so that it reaches the soft and normal one. ³²
There is more possibility of breast cancer in patients with positive past personal history. ³³	The complete removal of one-sided breast tissue may increase the likelihood of breast cancer in the opposite side. ³⁴

Rhazes believed that among different cancers, the breast is the most common malignancy in woman³⁵, similar to what we have recently come to about the prevalence of breast can-

- 7- Ades, 2017: 746.
- 8- Avicenna, 1880: 75, 76.
- 9- Rhazes, 2002: 7-25.
- 10- Avicenna, 1880: 75, 76.
- 11- Rhazes, 2002: 7-25.
- 12- Zargarani, 2013: 2002-4.
- 13- Tabatabaei, 2014: 16.
- 14- Rhazes, 2002: 7-25.
- 15- Ibid.
- 16- Becker, 2015: 131.
- 17- Rhazes, 2002: 7-25.
- 18- Kelsey, 1993: 36.
- 19- Rhazes, 2002: 7-25.
- 20- Rose, 1981: 2687-91.
- 21- Rhazes, 2002: 7-25.
- 22- Becker, 2015: 131.
- 23- Rhazes, 2002: 7-25.
- 24- Ades, 2017: 746.
- 25- Rhazes, 2002: 7-25.
- 26- Ades, 2017: 746.
- 27- Avicenna, 1880: 75, 76.
- 28- Rhazes, 2002: 7-25.
- 29- Ades, 2017: 746.
- 30- Rhazes, 2002: 7-25.
- 31- Ades, 2017: 746.
- 32- Rhazes, 2002: 7-25.
- 33- Ades, 2017: 746.
- 34- Rhazes, 2002: 7-25.
- 35- Rhazes, 2002: 7-25.



cer in women, worldwide³⁶. He also mentioned that breast cancer is more often seen in women having irregular menstruation cycle or inadequate monthly bleeding, (*a condition in which the woman body does not purify its accumulated abnormal humors especially sanguine, "Khelt-e-Dam", by cyclic vaginal bleeding*), quantitatively or qualitatively³⁷. Recent studies have also shown that the risk of breast cancer increases in patients having shorter intervals between menstruation cycles (*polymenorrhea*)³⁸. In addition, Rhazes said that there is a relationship between a positive history of persistent milky secretions, (*Laban-e-Raghigh-e-Daem*) and breast cancer³⁹, which is in turn related to elevated plasma prolactin level, (*Galactorrhea*), and breast cancer in clinical trial⁴⁰. According to Rhazes, there is a therapeutic package initially starting with nutritional adjustments (*Aghzieh*), followed by oral and topical drug prescription (*Advieh*). To him, in some cases like breast cancer, the surgical procedure (*Aamal-e-Yadaavi*) is also recommended, based on the severity of the disease⁴¹. In Modern medicine, breast cancer has also a therapeutic package consisting of chemotherapy, radiotherapy, hormone therapy and surgical procedures⁴². According to Rhazes manuscripts, patients who have visible, wounded, and infected breast mass, which were not responsive to medical treatments, are subject to surgical procedures⁴³. It is the same as what is done in Modern medicine in which existing a malignant or wounded mass in the breast tissue is one of the indications of mastectomy⁴⁴. Rhazes also greatly believed in medical ethics in talking over the issue with the patients as they enjoy the right to choose their treatment method before a total breast excision is preformed⁴⁵, like what happens nowadays in asking patients before choosing a surgical procedure⁴⁶. As Rhazes explained in "*Liber-Continent*", mastectomy, as an important remedy for breast cancer, is done carefully with a complete removal of the lining breast mass, along with the surrounding tissues and vessels, then followed by a short hesitation with milking the surgical area, (*Ghamze-Oroogh*), in order to bleed and therefore clear the nearby vessels from probable remained abnormal black-bile humor, which can cause cancer according to PM believes⁴⁷. The last step is to control of bleeding by a cauterization method known as "*kay*" in addition to local ointment with an astringent effect of "*Ghabiz*"⁴⁸. In the following studies, a complete removal of breast tissue with the associated surrounding vasculature and regional lymphadenectomy, known as "*Total Radical Mastectomy*", is one of the surgical methods in treating breast cancer⁴⁹. Rhazes carefully studied the margins free of tumor, by direct observation during and after mastectomy⁵⁰ just as

- 36- Becker, 2015: 131.
- 37- Rhazes, 2002: 7-25.
- 38- Kelsey, 1993: 36.
- 39- Rhazes, 2002: 7-25.
- 40- Rose, 1981: 2687-91.
- 41- Rhazes, 2002: 7-25.
- 42- Becker, 2015: 131.
- 43- Rhazes, 2002: 7-25.
- 44- Ades, 2017: 746.
- 45- Rhazes, 2002: 7-25.
- 46- Ades, 2017: 746.
- 47- Rhazes, 2002: 7-25.
- 48- Ibid.
- 49- Ades, 2017: 746.
- 50- Rhazes, 2002: 7-25.



what is done in recent studies that emphasize surgical margins to be free of tumor in Modern medicine⁵¹. *Rhazes* also believed that the complete removal of one-sided breast tissue would increase the likelihood of breast cancer on the opposite side, due to abnormal black-bile (cancer agent) secretion by blood circulation that might still remain⁵². This viewpoint is associated with Modern medicine studies, which claims that there is a more possibility of breast cancer in patients with positive past personal history⁵³.

All in all, it seems *Rhazes*' viewpoints are greatly consistent with the current theories and practices of breast cancer in Modern medicine, which is a sign of the validity and reliability of diagnostic and therapeutic methods of breast cancer studies in the past and the prominence of *Rhazes*' ideas regarding breast cancer as a serious disease, many years ago.

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51- Ades, 2017: 746.

52- Rhazes, 2002: 7-25.

53- Ades, 2017: 746.



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