



## Mastectomy, a Leading Procedure Well-known in Persian Medicine

Ali Aminian<sup>1</sup>, Ehsan Zaboli<sup>2</sup>, Seyede Sedighe Yousefi<sup>1\*</sup>

<sup>1</sup> Department of Traditional Persian Medicine, Faculty of Medicine, Mazandaran University of Medical Sciences, Sari, Iran

<sup>2</sup> Gastrointestinal Cancer Research Center, Mazandaran University of Medical Sciences, Sari, Iran

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### Dear editor-in-chief;

Mastectomy is one of the most effective methods for treating breast cancer [1]. The first modern radical mastectomy was carried out by “William Halsted” in 1894, and then, its modified form was completed in 1972, by a scientist named “John Madden” [2]. In recent two decades, surgical procedures have been progressed due to a variety of reasons, such as early diagnostic methods and effective therapies, so more conservative procedures are taken into consideration consequently with less side effects and more patient’s responsiveness [3]. Recent advances in diagnosis and treatments owe to the long-term efforts of scientists from the past to the present. Persian medicine, (PM), is one of the most important branches of complementary and alternative medicine (CAM), dating back to more than a thousand year, which has played a significant role in creating these scientific advances [4]. PM

paradigm is based on the “humoral theory”, known as “*Khelt*”, in which four humors are involved [5]. The quantitative and qualitative imbalance of these four humors may lead to a variety of diseases, including cancer [6]. Cancer is derived from a Greek word “*Karkinos*”, means crab, which is nominated due to the apparent similarity of the cancerous masses with this creature [1]. PM philosophies described cancer as a severe and hard swelling caused by the accumulation, congestion, and stiffness of abnormal black-bile or “*Soda*” (one kind of four humors) in any susceptible organ, such as breast [7,8]. In PM, treatment is initially started with nutritional adjustment, followed by oral and topical drug prescription, and in conditions, like breast cancer, the surgical procedure is also advised based on the severity of the disease [7]. Considering PM manuscripts, the history of breast cancer description and treatment, goes back to prominent scholars

\*Corresponding Author: Seyede Sedighe Yousefi

Department of Traditional Persian Medicine, Faculty of Medicine, Mazandaran University of Medical Sciences, Sari, Iran

Tel: +98- 11-33252843

Email: s.yousefi@mazums.ac.ir

such as *Rhazi* (854 A.D), and *Avicenna* (980 A.D) [9]. According to *Rhazi's* book, *liber-continent*, in general, cancer is more common in women than men, which is due to the presence of more soft tissue mass in women. Also, breast cancer is the most common type of cancer among women. *Rhazi* believed that breast cancer is more often seen in women with irregular menstruation cycle or inadequate monthly bleeding, quantitative or qualitative [8]. In PM, patients who had visible or wounded and infected breast mass irresponsive to medical treatments, had been candidate for mastectomy procedure [8]. The PM scholars greatly believed in medical ethics in consultation with the patients regarding the right to choose their treatment before performing a total breast excision [8]. Mastectomy was a procedure with three phases, the first phase was a complete removal of the lining breast mass, along with surrounding tissues and vessels. The second phase was a short hesitation

after the breast removal with milking the surgical site in order to bleed and therefore clear nearby vessels from probable remained abnormal black-bile humor which, in PM believes, causing cancer. The third phase was control of bleeding by a cauterization method known as “*kay*” in addition to local astringent medications [8]. PM philosophies have emphasized that a breast solid tumor should be removed until it reaches the normal soft tissue with the margins free of tumor, by direct observation [8]. They also believed that the complete removal of one-sided breast tissue would increase the likelihood of breast cancer in the opposite side, due to pouring abnormal black-bile (cancer agent), that might still remain in the surgical site, to the opposite breast tissue, by blood circulation [7,8].

The similarities between mastectomy in the PM manuscripts and the Modern medicine are summarized in Table 1.

**Table 1.** Comparison of mastectomy between PM and Modern medicine

Mastectomy in Modern medicine	Mastectomy in Persian medicine
Consultation with the patient in choosing surgical methods	Patients choice in choosing the surgical procedure
Existing a malignant or wounded mass in the breast tissue is the indication of radical mastectomy	Existing a visible or wounded and infected mass in the breast region is the indication of total breast removal
Radical mastectomy with regional lymph node dissection	Complete removal of breast tissue with the associated surrounding vasculature
Surgical margins free of tumor	Removal of the hard and abnormal tissue until it reaches the soft and normal one

As Table 1 depicts, the therapeutic recommendations in Persian medicine are consistent with those of current methods for

breast cancer remedies, which is a sign of the antiquity in diagnostic and therapeutic methods of breast cancer and the prominence

of Persian medicine experts with the principles of mastectomy.

### Conflicts of interest

The authors declare that there is no conflict of interest.

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