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## Cancer Treatment in Islamic Traditional Medicine

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### ABSTRACT

Although significant progress has been made in cancer treatment in recent decades, the effectiveness of modern therapeutic approaches is often limited by their toxic effects on other organs. In addition, many people in the world have limited or unequal access to cancer treatment services. Therefore, utilizing information from traditional medicine systems to identify alternative methods to prevent and control cancer. The use of traditional medicine can lead to the discovery of new bioactive compounds and drugs that are available, safe and affordable. In Islamic medicine, cancer is known as a disease with many treatment options. Traditional Islamic medicine suggests several strategies for cancer control and treatment. Surgical manipulation, venesection, dietary adjustment, and use of natural medicines including solid, semisolid, and liquid dosage forms by oral and external routes of administration are among these methods. This literature study will presents cancer from the perspective of traditional Islamic medicine, its aetiology and management.

### 1. Introduction

Islamic traditional medicine (ITM) is a holistic system of medicine that developed during the Islamic Golden Age (750-1258 AD). It is practised and taught throughout the Islamic world. At that time, Muslim and non-Muslim medical scholars, especially Iranian doctors and pharmacists, translated the scientific knowledge they inherited from ancient Greek and Iranian (Persian) culture. Strives to revive and develop the knowledge, remove myths and errors, and impart authentic medicine knowledge. Although most of ITM's scientists are not Arabs, most of the books are written in Arabic. Razi (Razhes; 865-925 AD), Ahwazi (Haly Abbas; 930-994 AD), Avicenna (Ibnu Sina; 980-1037 AD), Jorjani (1042-1136 AD), and

Aqili Khorasani (18<sup>th</sup> century) were prominent Iranian physicians who have the most significant contribution to the promotion of ITM.<sup>1</sup>

Although significant progress has been made in cancer treatment in recent decades, the effectiveness of modern therapeutic approaches is often limited by their toxic effects on other organs. In addition, many people in the world have limited or unequal access to cancer treatment services. Therefore, utilizing information from traditional medicine systems to identify alternative methods to prevent and control cancer. In addition, the use of traditional medicine can lead to the discovery of new bioactive compounds and drugs that are available, safe and affordable. In



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Islamic medicine, cancer is known as a disease with many treatment options. This literature study will discuss cancer, its aetiology and management from the perspective of traditional Islamic medicine.<sup>2</sup>

### **Definition of cancer from ITM perspective**

ITM is based on humour knowledge, which holds that the human body comprises four essential fluids, namely humour. The four fluids are blood, phlegm, yellow bile, and black bile, and each corresponds to a paired quality: hot and wet blood, cold and wet phlegm, hot and dry yellow bile, and cold and dry black bile. The right balance of humour is essential for maintaining good health. Thus, all diseases and disabilities, including cancer, are caused by excess or decay of this fluid.<sup>3,4</sup>

According to ITM, cancer is a type of swelling of black bile that is accompanied by pain, throbbing, inflammation, and angiogenesis. The blood vessels around the tumour are full and stiff and contain dark, black blood. The designation "cancer" is due to the similarity between cancerous tumours that affect organs and crabs that catch their prey. The round shape, the darkness of the tumour and the origin of the blood vessels from its environment describe a crab's leg image. Cancer often affects soft and porous organs, and for this reason, cancer mainly involves the breast and innervated organs (such as the uterus) in women and the throat, larynx, testes and penis in men.<sup>5</sup>

Initially, the cancer is the size of a pea or smaller, complex, round, mobile, dark, and slightly warm. Then it will start to grow gradually and reach the size of a walnut or larger. It may be curable during the early stages of its development, but diagnosis is difficult at this stage. On the other hand, cancer treatment will be difficult or even impossible with the development and emergence of clinical manifestations.

Cancers of the eye, nasal cavity, breast, uterus, liver, and other visceral organs and skin are the most

frequently mentioned cancers in the ITM text. Cancer is divided into two main types: ulcerative and nonulcerative cancer. Some cancerous tumours ulcerate easily, but some do not. Cancer sores usually spread centripetally, and the discharge is purulent. Appropriate use of drugs can prevent ulceration of susceptible tumours. On the other hand, some cancerous tumours that are not prone to ulceration will ulcerate after inappropriate drug administration.

Advanced and large tumours are susceptible and painful, with a characteristic red to yellow colour and a burning, stinging pain. Such tumours may erupt spontaneously, purulent and bloody fluid may appear on the wound surface. The resulting wound is susceptible and can corrode the surrounding tissue.

### **Cancer aetiology**

According to the ITM, excessive accumulation of abnormal black bile in any part of the body is a significant cause of cancer. Ageing, prolonged exposure to stress, cold and dry foods and hard work are the leading causes of increased black bile production. In some cases, bleeding (such as menstruation, abnormal uterine bleeding, or bleeding haemorrhoids) is a defence mechanism against the accumulation of bad humour in the body. Therefore, stopping the bleeding completely by surgical procedures and other medications can accumulate black bile and increase the risk of cancer and other diseases stemming from excessive black bile (including cancer, melancholia, liver problems, psoriasis).<sup>6</sup>

### **Cancer management**

Traditional Islamic medicine suggests several strategies for cancer control and treatment. Surgical manipulation, venesection, dietary adjustment, and use of natural medicines including solid, semisolid, and liquid dosage forms by oral and external routes of administration are among these methods.<sup>7</sup>



### **Surgery and manipulation**

Surgery is used to eradicate tumours in the early stages of their development. Small tumours distant from vital organs are good candidates for surgery. The tumour should be excised from its origin, and some of the adjacent unaffected tissue should also be excised. In addition, the bleeding should be allowed to continue until a large volume of blood is expelled, and the surrounding tissue must be compressed to expel the blood mixed with black bile thoroughly. After that, the injured site must be saved or burned. However, suppose the cancerous tumour is located in the vicinity of sensitive and vital organs. In that case, surgical procedures and cauterization will be hazardous and turn cancer into a non-healing ulcer. Regular venesection is also advised during the early stages of cancer to draw the blood of black bile from the body.<sup>8</sup>

### **Nutritional therapy**

In traditional Islamic medicine, dietary recommendations have been proposed to slow the progression of advanced tumours that cannot be manipulated due to metastatic problems. In this case, nutritional treatment will increase the patient's longevity. Foods with a wet temper that produce high-quality blood such as almond oil, fresh small fish, soft boiled egg yolks, lamb, bird meat, ripe and sweet apples, sweet plums, bananas, blackcurrant (*Vigna mungo* (L.) Hepper), spinach (*Spinacia oleracea* L.), pumpkin, light wine, and fresh cow's milk and dough were given. On the other hand, excessive intake of foodstuffs can trigger the production of black bile in the body (such as eggplant (*Solanum melongena* L.), lentils (*Lens esculenta* Moench), dates (*Phoenix dactylifera* L.), cabbage (*Brassica oleracea* L.), meat beef, black and thick wine, and meat preserved with salt is strictly limited.<sup>9</sup>

### **Pharmacotherapy**

From the point of view of traditional Islamic medicine, an excess of abnormal black bile in various parts of the body can lead to cancer formation. In treating cancer, black bile must be removed from the body using appropriate laxatives and prevent the formation and accumulation of black bile in the vessels as far as possible. For this purpose, many single and compound drugs of plant, animal and mineral origin have been recommended. Of the 107 plant species introduced in Iranian Islamic medicine for cancer treatment, 59 plants or their chemical compounds have been shown to have cytotoxic and antitumor activities in recent investigations, and several have entered clinical trials. Their effectiveness has been evaluated in humans.<sup>7-8</sup>

An essential point in cancer and tumour pharmacotherapy is avoiding caustic and irritant drugs to prevent further stimulation and ulceration. Cancer drugs can be administered internally (oral, enema, vaginal douche) or applied topically (topical oils, liniments, lotions, powders). Local anticancer drugs have the following objectives: cancer eradication, prevention of metastasis, prevention of ulceration, and tumour healing ulceration.

### **Mechanism of action of anticancer drugs**

Anticancer drugs work through different mechanisms, namely as black bile laxative, antiulcer in cancerous wounds, wound healing drugs, and analgesics. Black bile laxatives are common anticancer drugs that can eliminate abnormal black bile from the rest of the body. Laxatives should be given frequently. From ITM's point of view, dodder clover (*Cuscuta epithymum* Murr.) is the most valuable black bile laxative, commonly used to treat diseases caused by excess or imbalance of this humour as all types of cancer, melancholia, leprosy, and vitiligo. For this purpose, a mixture of clover dodder with cheese whey or hydromel should be given frequently. A decoction of the plant in oxymel is also



prescribed. Common polypody (*Polypodium vulgare* L.), French lavender (*Lavandula stoechas* L.), colocynth (*Citrullus colocynthis* (L.) Schrad.), and black hellebore (*Helleborus niger* L.) are other potent black bile laxatives.<sup>4,5</sup>

Antiulcer drugs can inhibit tumour ulceration. *Urtica pilulifera* L. and *Aloe vera* (L.) Burm.f. is an example of such a plant. Wound healing drugs accelerate the healing of cancerous wounds. *Althaea officinalis* L., *Brassica oleracea* L., and *Viola odorata* L. have wound healing activity. In addition, analgesic drugs from plants can relieve cancer pain. *Parietaria officinalis* L. and *Solanum nigrum* L. are plants that have analgesic effects.

## 2. Conclusion

In conclusion, traditional Islamic medicine for cancer has been widely proven in modern research. Of the 107 plant species introduced in Iranian Islamic medicine for cancer treatment, 59 plants or their chemical compounds have been shown to have cytotoxic and antitumor activities in recent investigations, and several have entered clinical trials.

This finding shows the deep insight of Islamic doctors about cancer treatment. Despite the lack of modern facilities and developed equipment on their era, they introduced anticancer plants, showing cytotoxic properties in the latest research. The correlation between these findings signifies the originality of experience and studies, representing valuable funds and valuable knowledge dating back more than twelve centuries. This legacy is based on thousands of years of experience by ancient Greek, Indian and Iranian doctors and relies on many clinical trials on thousands of people. In addition, the application of traditional medicine knowledge reinterpreted by modern data can lead to more effective and evidence-based use of medicinal plants, which can contribute to therapeutic decisions in various diseases.

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