SARTAN (CANCER): CONCEPT AND MANAGEMENT IN THE LITERATURE OF UNANI MEDICINE: A REVIEW

Ashfaque Ahmad¹, Mahmuda Begum²
¹Research Officer (Unani), National Institute of Indian Medical Heritage, Hyderabad
²Unani Consultant and Director, Al-Huda Medical and Hijama (Cupping) Center, Hyderabad

Correspondence should be addressed to Ashfaque Ahmad

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ABSTRACT

Unani medicine is based on the humoral theory of Hippocrates which presupposes the presence of four types of Akhlat (pleural of Khilt meaning humor) in the body like Dam (blood), Balgham (phlegm), Safra (yellow bile) and Sauda (black bile). Sauda Tabai (Melanchole or Black bile): Mizaj (Temperament): Cold and Dry

Sauda Raddia (Atrabilious Sauda): These are all black or brown substances produced with the result of metabolism and do not serve any normal function in the body, but are detrimental to the body. They are also those substances which produce malignancy in the body, melancholic and other related psychogenic ailment are Altered Sauda.

INTRODUCTION

The principles of Hippocrates (460-377 B.C), the first who established that disease is a natural process and its symptoms were the reactions of the body are foundation of Unani medicine. Hippocrates advocated that the chief function of a physician is to aid the natural forces of the body in combating the disease. The chief contribution of Hippocrates to medical realm is the humoral theory which presupposes the presence of four types of Akhlat (pleural of Khilt meaning humor) in the body: Dam (blood), Balgham (phlegm), Safra (yellow bile) and Sauda (black bile). The temperaments of persons are expressed by the terms sanguine, phlegmatic, choleric and melancholic, according to the preponderance of the humors (blood, phlegm, yellow and black bile) in them. The humors themselves were assigned temperaments; blood is hot and moist, phlegm is cold and moist, yellow bile is hot and dry and black bile is cold and dry. Every person is supposed to have the unique humoral constitution which represents his/her healthy state. The balance of four fluids in the body (homeostasis) is believed to determine our emotional and physical state.

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It is a fact that an unending chain of metabolism changes (Istehalah) is going on in our body, which results in the production of large number of compounds (Akhlat). According to Ali ibn-e- Abbass Majusi, the atrabilious Sauda is extremely hot, it is why it posses the eroding and phagocytic properties like the properties of cancer. And when any Su-e-Mizaj (altered nature) occurs in the cells of endocrine glands, it affects the Mizaj of the entire body and nearly all the cells of the body are affected. [5]

**NOMENCLATURE**

Sartan (Cancer) means ‘crab’, Cancer appears, as mentioned in the Canon of Avicenna (980-1032), like a crab therefore it is named as crab or because cancer preys on its prey, the same way this inflammation/growth attaches to the tissue of the organ, and also because it is round and surrounded by blood vessels. [2][3]

**CAUSES OF CANCER**

The basic cause of disease is change in Akhlat with respect to their quality, quantity and temperamen. When the food/diet taken is healthy in appropriate quantity and proper time and the organs related with digestion and absorption of food are also healthier with respect to their temperaments then Akhlat Tabai (normal humors) are produced. But, when unhealthy diet is taken in improper proportion at irregular intervals and the temperamen of the organs also become altered, and then this results in production of Akhlat Raddia (atrabilious humors). Sometimes food is healthy and taken properly, but external factors like air, water and occupation effects the organs of metabolism and their temperament is altered and this result in production of altered Akhlat. Sometimes both internal and external factors combined together and produce body fluids which are altered with respect to quantity and quality. Sometimes the production of altered fluids in the body is because of some (genetic defect) congenital defect in the organ of metabolism with respect to its temperament. [10]

In Unani literature the basic cause of disease is change in Akhlat with respect to their quality and quantity when the black bile (Sauda) deviates from its normal quantity and quality. It is a disease associated with change in the atrabile humour. Therefore one condition for the production of this disease is the entry of Sauda into the metabolic cycle in a pathological manner. The difference between cancerous swelling and induration is that the latter is a slumbering silent mass which destroys the sensation (so that the part is numb), and is painless, and stationary. It may produce weakness of the part. A cancerous swelling progressively increases in size, is destructive, and spreads roots which insinuate themselves amongst the tissue elements, It does not necessarily destroy sensation unless it has existed for a long time, and then it kills the tissues and destroys the sensation in the part. It would seem that indurations and cancerous swellings differ less as to substance than in the inseparable accidental qualities. The hard swellings arising from atrabilious humour are usually hard from the outset. They are often autumnal. They often become “indurations,” especially if there be sanguineous humour present. The same sort of change may take place in the swellings arising out of serous humour. Swellings arising out of serous humour are of two varieties. They are either diffused or circumscribed (nodular). The difference lies in the fact that the latter form is discrete among the surrounding tissues, whereas the other form is intermingled with them, and is therefore not discrete, but diffuse. [2][3]

The characteristic of Sartan (Cancer) is that it affects the adjacent tissues and scavenges/erodes them. Cancer of skin extends from the superficial to the deeper layers. Cancer of breast extends to the muscular layer/erodes them. The cancerous material reaches the distant parts through blood vessels. There is rich supply of blood vessels in the cancerous growth.

Ibn Sina has mentioned Sartan under the Cold Swellings, he writes in al-Qanun:

Swellings which are not hot are caused by Sauda, phlegm, fluid and Reeh (flatus). Swelling caused by Sauda is of three types:

i. Salabah (Hard swelling or simple tumors),

ii. Sartan (Cancerous), both of which are common in autumn,

iii. Ghudud (glandular) like Khanazir (scrofula) and Sala’a (multiple nodules)

First two differ from Ghudud, as Ghudud (ordinary glands) are distinct and separate from the neighboring tissues. Tubercular glands are superficially attached to the skin. Tumors and cancer are, however, a part of the affected tissues and infiltrate therein.

The difference between a Salabah (tumor) and a Sartan (cancer) is that the former is stationary and insensate to pain, while the latter is a growing, spreading, destructive and malignant swelling which infiltrates the tissues in several different directions. A cancer is not necessarily insensitive, but when it has destroyed the tissue, and persists for a long time it does become completely insensitive. It is possible that these two varieties of swellings do not differ from each other in nature but in the pattern of their symptoms. Salabah (the tumor) may be hard from the onset, or become hard afterwards. This is especially the case with swellings derived from blood or sometime phlegm. Ghudud (Glands) and Sala’a (nodule) have to be differentiated from ganglion. A ganglion is firmly attached to the parts where it is located and felt characteristically like the nerves. When dispersed with pressure it tends to reappear and does not recur if removed with a strong local application. Ganglia are often produced by hard manual labor and can be dispersed by pressing with a heavy object. [3]

**Madda-e-Sartan – (Cancerous material)**

The material of cancer is dangerous, harmful and commonly produced from burning of black bile (Ehterag-e-
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*Sauda*) and sometimes from burning of altered yellow bile and impure phlegm (*Ehteraq-e-Safra wa Balgham*). The causative material of cancer has more heat in it, therefore it rapidly progresses. [11]

Ibn Sina considers *Sartan* as *Warm Saudavi* (melancholic swelling) of an organ. It is formed from *Sauda Ehteraqi* (black bile) that is produced from *Ehteraq-e-Safra* (burning of yellow bile). Blood vessels around such organs appear like crab legs. They are not red like in phlegmatic swelling but they look like black, blue and green. It occurs mostly in porous organs, that’s why it is more common in women and nerve organs. Some of them are extremely painful while some are slight painful and stationary. The altered black bile formed from burning of altered yellow bile produces ulcerations in the organs. [2][3]

**Cold and Dry diseases:** When the quantity of altered black bile (*Ghair Tabae Sauda*) increases and the spleen is unable to absorb it completely, and it spreads into the blood circulation and the organs start gaining nutrition from it, dangerous diseases are produced from which recovery is difficult, because the temperament of the altered humour is very different from the normal one.

*Ghair Tabae Sauda* with respect to quality is divided into two categories one which is formed from burning of normal black bile (*Ehteraq-e-Sauda*). The other which is formed from burning of altered yellow bile (*Ehteraq-e-Safra Ghair Tabae*). The cause of these two alterations is hot and dry condition in the temperament. The altered black bile formed from burning of altered yellow bile produces ulcerations in the organs. The diseases formed from this altered black bile are leprosy and cancer. [10]

**SYMPTOMS**

The symptom of cancer is that initially the growth is almond like in size or smaller than almond and gradually it increases in size, its hardness increases, color becomes dark blue, circular in shape and hot to touch. When it starts growing, blood vessels red and green similar to the limbs of the crab originate from it. Few inner blood vessels grow deep into the body. [11]

**TYPES OF CANCER**

i. *Sartan-e-Jild* (Skin Cancer): It commonly originates from the skin. It is seen in middle and old people and occasionally seen in newborns and children; most often it develops because of constant and long lasting irritation and sometimes in old scars and old ulcers. It develops from any one of the following three conditions

a. Growth of mole with a hard peduncle
b. Small, round ulcer whose edges are rolled outwards and elevated.
c. Crack on a hard surface.

II. *Sartan-e-Akkal* (Corrosive/eroding cancer or Rodent ulcer): It is a kind of cancerous cyst (*Rasoli*) which grows near the nose, eyelids, orbit and cheeks in the form of round, slippery, elevation in the initial stages. It grows gradually. It starts from the deeper layers and reaches the superficial ulcer surface is regular, slippery and pressed in the edges are elevated to some extent and rolled outwards. The exudate is less, less pain or no pain. The lymph nodes are influenced by this cancer and it does not extend to other organs and it does not metastasize. But the ulcer spreads and destroys the nearby surrounding tissues until it destroys the bone and finally because of bone destruction, cranium is destroyed and brain matter is exposed. This type of cancer occurs in the age group of above 40. The characteristic of this cancer is that it progresses very slowly.

iii. *Sartan-e-Hilami*. This commonly presents in abdominal cavity, stomach, intestines. This is a secondary type of cancer transformed from the first type of cancer. The cancerous material is placed in different small locale, which is sticky and semi-transparent.

iv. *Sartan-e-Mukhati* (Cancer of mucous membrane): It occurs most often in the gastro intestinal tract, and sometimes breast, liver, cervix and sometimes it occurs in the mucus membrane of oral cavity. Firstly this type of cancer appears as elevation in the mucus membrane and later it extends into the deeper layers and reaches from mucus membrane to muscular layer. Sometime it ulcerates and their characteristic features appear. The edges of the ulcer are hard, rolled outwards and elevated. The adjacent lymph nodes get inflamed. It metastasizes to the nearby organs.

v. *Sartan-e-Ghudi* (Cancer of lymph nodes): This type of cancer appears in the lymph nodes. First it starts from single lymph nodes. Depending on its hardness, softness and speed of spread it is classified into two, *Securoos* which is a hard swelling and *Sartan-e-haad* (acute cancer)

vi. *Sartan-e-Mukhi*: This type of cancer spreads very fast, blood vessels are enormous. It is a soft growth which metastasizes very fast into the surrounding tissues and lymph nodes and even ulcerates much earlier. When it is cut in cross section it appears soft and whitish. This type of cancer appears in breast, testis and other glandular organs.

vii. Ulcerative Cancer: When a cancerous tissue ulcerates, its ulcer is blackish and the lips of the
ulcer are thick, reddish or greenish and role outwards. There is exudate of foul smelling watery discharge (Sadeed-e-Muntin) from it this is the specific characteristic of cancer.

MANAGEMENT OF CANCER

Ibn Sina in ‘The Canon’ recognized cancer as a tumor. He noted that a “cancerous tumor progressively increases in size, is destructive and spreads roots which insinuate themselves amongst the tissue elements.” He also attempted the earliest known treatments for cancer with herbs. Another method for treating cancer first described in the Canon was a surgical treatment. It stated that the excision should be radical and that all diseased tissue should be removed, which included the use of amputation or the removal of veins running in the direction of the tumor. He also recommended the use of cautization for the area being treated if necessary.

Ibn Sina writes

i. It’s possible to cure Sartan in initial stage or to prevent it from ulceration. Sartan Khafi (Hidden Cancer) it is advised by Hippocrates not to interfere the tumor because it may lead to death. But if it is left untreated its duration may be increased with safety and during that period by use of healthy diet like barley water, fish, egg yolk, the disease may start subsiding. If there is a heat the fresh vegetables should be given. Excision of that part if possible is also a good option but it should be excised from the root as nothing is left behind from cancerous materials. Sometimes it was seen that a cancer affected breast was removed from its root, despite that again this cancerous material spread to other breast also. So the surgery also has a chance to trigger its spread rapidly. It is difficult to demarcate the extent of the cancerous tissue and the normal tissue. For this reason during surgery large part of the organs are dissected.

ii. Correction of diets:

iii. Evacuation of the body from Madda Raddia by Fasd (venesection) or Ishal (purgation). Drug for Ishal: Decoction of Aftimun (Cuscuta reflexa Roxb.) in Sikanjabeen, Maul jubn (Whey or watery part of milk), Maul Asl (Honey Water), Ayaraj (Aloe Vera)

iv. External application: Paste made of Rade Advia (divergent drugs) and mineral drugs are applied. like stones, coriander juice, fresh crab, mucilage of Cotton Seeds,

v. Ulcerated Sartan: Juice of Solanaum nigrum should be sprayed when the wound tends to dry up. Luban (Benzoins), Asfedaj (white lead), Teen Armani (Arminina Bole) Rasas (lead), Aloe, all these drugs powdered and ointment made in Rose oil. Ash of crab is also useful.

CONCLUSION

Appropriate cause of cancer is not yet found out in spite of advancement in microbiology and microscopy. Commonly it is seen that local itching and constant irritation has influence in the cause of cancer. Therefore people with constant irritation on their lip develop cancer of lip. Similarly people who eat tobacco and betel develop cancer in their jaws and cheeks, especially who keep betel nut or Paan in their mouth and sleep off. There is a modern concept of cancer which also supports the theories mentioned in the Unani literatures. As the Cancers are a large family of diseases that involve abnormal cell growth with the potential to invade or spread to other parts of the body. They form a subset of neoplasms. A neoplasm or tumor is a group of cells that have undergone unregulated growth, and will often form a mass or lump, but may be distributed diffusely. Six characteristics of cancer have been proposed:

i. Self-sufficiency in growth signaling
ii. Insensitivity to anti-growth signals
iii. Evasion of apoptosis
iv. enabling of a limitless replicative potential
v. Induction and sustainment of angiogenesis
vi. Activation of metastasis and invasion of tissue.[1]

The progression from normal cells to cells that can form a discernible mass to outright cancer involves multiple steps known as malignant progression. Therefore it is necessary that the earlier cancer is diagnosed and treated, the better the chance of its being cured. Some types of cancer such as those of the skin, breast, mouth, testicles, prostate, and rectum may be detected by routine self-exam or other screening measures before the symptoms become serious. Most cases of cancer are detected and diagnosed after a tumor can be felt or when other symptoms develop. In a few cases, cancer is diagnosed incidentally as a result of evaluating or treating other medical conditions. Cancer diagnosis begins with a thorough physical exam and a complete medical history. Laboratory studies of blood, urine, and stool can detect abnormalities that may indicate cancer. When a tumor is suspected, imaging tests such as X-rays, computed tomography (CT), magnetic resonance imaging (MRI), ultrasound, and fiber-optic endoscopy examinations help doctors determine the cancer's location and size. To confirm the diagnosis of most cancers, a biopsy needs to be performed in which a tissue sample is removed from the suspected tumor and studied under a microscope to check for cancer cells.

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