Cancer perception in Unani medicine – Conceptual analysis

Unani tipta kanser kavramı – Kavramsal analiz

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SUMMARY
Cancer has emerged as a major public health problem worldwide as well as in developing countries. With the cancer incidence further rising, it poses a huge public health and economic challenge. Although widespread research for management of cancer has been going on and present treatment causes so many adverse effects with enormous financial implication, a huge unconsummated need of better intervention is to be explored that has no or less side effects, easily available and above all cost effective in cancer treatment. Unani physicians have not only described the concept of Sartan which literally mean cancer but also cited its management through different regimens which remains unexplored. Linkage of cancer to erratic life style and hereditary factors had been quoted by Unani scholar’s way back in 12th century itself. The recent studies in the field of herbal cancer therapy indirectly support and validate the Unani theory of tumors particularly Sauda (black bile). Many single drugs, used in Unani system for the disease, have been evaluated for anticancer activity and found to be very effective. However, no attention has been paid to elucidate the efficacy of compound formulation habitually used in treatment. It is defined as Warm Salabat (hard inflammation) with lesion and their tributaries filled by Madda Saudavia (morbid melacholic humour). The main cause of Sartan (cancer) is stated to be morbid Sauda which is formed by Sauda-e-Ahtraqia (combustion of sauda) after Ahtraq (combustion) of Sauda. The principles of its management include Ilaj-bid-Dawa (drug therapy), Ilaj-bit-Tadbeer (regimenal therapy) and Ilaj-bit-Yad (surgery). The future strategies for research in Unani medicine are to validate these therapies by undertaking in vitro, in vivo and clinical studies as adjuvant or in palliative care.

Keywords: Sartan, Unani medicine, Cancer

ÖZET

Anahtar kelimeler: Sartan, Yunan Tıbbı, kanser

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INTRODUCTION

Cancer has emerged as a major public health problem worldwide as well as in developing countries. [1] It is defined as, malignant growth characterized by the uninhibited proliferation of cells, often affecting healthy tissues locally or throughout the body. [2] The most significant risk factor for cancer overall is age; two-thirds of all cases were in those older than age 65 years. [3] Owing to its high incidence in nature, it is the second leading cause of death after cardiovascular etiology.

On the basis of different tissue involved and site it can be classified into (i) histological type which are grouped into six major categories, viz: (a) carcinoma, (b) sarcoma, (c) myeloma, (d) leukemia, (e) lymphoma and (f) mixed types and (ii) primary type. [4] Nearly all cancers arise from a single cell [1] possess unique characteristics, in that their proliferation is unregulated and they have the capacity to invade surrounding tissues and spread to other sites. The cell cycle is regulated by two families of molecules known as cyclins and cyclin-dependant kinases (CDKs). Cyclins bind to CDKs, which regulate target proteins required for entry into the next phase of the cell cycle. Actively replicating cells are targeted in cancer therapy, as the DNA during cell division is susceptible to damage or radiation. The majorities of cancers do not have a single cause but rather are the result of a complex interaction between genetic factors and exposure to environmental carcinogens. [5]

The goal of cancer treatment is first to eradicate the cancer. If it cannot be accomplished, then it switched to palliation, the reduction of symptoms, and safeguarding of quality of life while trying to extend life. Cancer therapy are classified into four main types: surgery, radiation therapy (including photodynamic therapy), chemotherapy (including hormonal therapy and molecularly targeted therapy), and biologic therapy (including immunotherapy and gene therapy). [3] Surgery has a pivotal role in the management of cancer which includes Biopsy, Excision, and Palliation in which it is necessary. [5]

Although widespread research for management of cancer has been going on and present treatment causes so many adverse effects with enormous financial implications, therefore a huge unconsummated need of better intervention that has no or less side effects. Unani physicians have not only described the concept of Sartan but also cited its management through different regimen which remains unexplored. Many novel compound formulations are prescribed in the classical texts which are to be scientifically validated to testify the claims made.

UNANI PERCEPTION

Sartan is an Arabic word which literally means crab and was derived from an ancient Greek word καρκίνος (karkinos, “crab”); Galen (131-200 A.D.) stated, “As a crab is equipped with talons on either sides of the body, so is the disease. The tributaries extend from the growth giving it a shape much like that of a crab. “ Paul of Aegin (625-690 A.D.), representing Arab medicine, believed that cancer is so called because it adheres with such obstinacy to the part it seizes and like a crab it cannot be separated from it easily. [6-11] In Unani terminology, it is defined as Wärme Salabat (hard inflammation) with lesion and their tributaries filled by Madda Saudavia (morbid melancholic humour). [8] Usually it is developed in those who are obese and flabby in built, which is the cause for high incidence of cancer in females particularly in those hollow organs where the causative matter Madda Saudavia easily accumulate viz: breast, lungs, cervix, oral cavity, uterus etc.[8, 9, 11]

The main cause of Sartan is stated to be morbid Sauda [7-12] which is formed by Sauda-e-Ahtraqia (combustion of sauda) after Ahtraq (combustion) of Sauda. [8] Dam-e-Saudavi due to combustion of blood, makes the colour of blood black, on palpation of swelling it is not felt hot, although quantity is more as compared to Imtila Dam (hyperemia) just because of Sauda. [12] Those diseases which are due to Khilt Sauda (black bile) can be explained on the basis of Kaifiyat (quality) and Kamiyat (quantity) of it. If one or both of them are simultaneously disturbed, it produces morbid Sauda and results in alarming diseases.

HEALTH AND HUMOUR

Akhlaat (Humours) is one of the seven basic physiological components on which human body exists. Health is dependent on normal concentration and temperament of four humours (Dam, Balgham, Safra and Sauda). These humours are produced in the liver. All organs get their nourishment from different humours chiefly blood, which further depends on normal quality (Kaifiyat) and Kamiyat (quantity) of it. These two important characteristics of blood entirely depends on effective digestive system of body along with balanced diet, time of food, quality and quantity of food. (Fig. 1)
Factors which alter Sauda into morbid one are mainly categorized as internal and external. Internal factors include taking predominantly Sard Khushk (cold and dry) temperament diet and dominance of Sard Khushk or Har Khushk (hot and dry) temperaments deteriorate the digestive system. Environment and strenuous occupation also destabilizes the temperament of Sauda. Hereditary factors also play an important role and produce such diseases. Spleen is unable to expel it from the body which leads to spread it in whole body. Treatments of such diseases are difficult, as morbid Sauda is harmful for body and very difficult to detoxify. Morbid Sauda produced by alteration in its Kaifiyat (quality) can be of two types: produced by combustion of Sauda and produced by combustion of morbid Safra. On the basis of presence/absence of lesion in Sartan, it can be classified into two types: Cancer with lesion (due to combustion of morbid Sauda) and Cancer without lesion (due to combustion of Sauda). [9]

Most commonly Sartan is occurred in A’azay Ratba (moist organs) viz; breast, uterus, palate, intestine, face or stomach.[7, 15] The causes for deposition of morbid matter in the moist organs are due to impaired digestive process and hallow space of the organ. [12] Females are more vulnerable than male to allow viscous morbid Sauda due to their flabby bodies. [8, 15] Zakariya Razi maintains that Sartan mainly affects uterus, breast, eyes, neck and nervous tissue. [12]

Sartan is a hard warm (inflammation) with its root deep inside the tissue with tenderness and dryness. Intensity of pain increases due to mass effect, initially it is of pea size but it may be grow up to the size of watermelon. If it starts with unbearable pain then it is untreatable, but without pain, growth process may recede with the treatment. [11, 16] Color of mutant tissue is reddish easily differentiated from surrounding tissue; nature of pain is sharp and burning. Patients usually develop non-healing lesion with infection and putrefaction. Sometime colour of Warm is black; on palpation it is not felt warm as in case of acute Warm. Tributaries rising from cancer lesion are filled with morbid Sauda which looks greenish black in colour. Usually Sartan is developed in upper part of body, foul smelling fluid which secreted from infected lesion makes surrounding tissue necrosed towards deep inside and make the lesion indurated. [12]

THE PATHO-PHYSIOLOGY OF SARTAN IN UNANI MEDICINE

Unani philosophers believed that all the three creatures, i.e., plants, animals and minerals are the blend of Arkan (basic elements).
On Istiraq (combustion), the Ajza’ Latif (rarefied portion) i.e. Ajza’ Nariyya, Ajza’ Hawa’iyya and Ajza’ Ma’iyya present in them are dispersed and the Ajza’ Kathif (dense portion) i.e. Ajza’ Ardiyya remains as ash. [9, 11, 14]

The philosophers also believed that plants are composed of Arkan as building blocks, likewise foods are composed of plants, Arkan are composed of foods, simple organs are composed of Akhlat, compound organs are composed of simple organs and likewise the body is composed of compound organs. In short, the organs are produced from Akhlat, Akhlat derived from foods, foods are forms of plants and plants are created from Arkan Arba as primary substrates. Thus, these are different approaches from top-down and bottom-up strategies of material causes. [14]

In humans, the food ingested undergoes four stages of digestion, which is described as the process of converting food into chemical substances that can be easily absorbed in the blood and utilized by the body tissue. [9]

In Hazm Medi (gastric digestion), the food is broken down into an absorbable chylus in the form of milky white emulsification. It is further absorbed into the liver through mesenteric vessels for Hazm Kabdi (hepatic digestion), where chyle is metabolized and converted into chymus. Here all the four Akhlat are produced during chymification process. Akhlat are synthesized from different types of diet depending on their consistency and Mizaj. Apart from the nature of diet, the way of hepatic processing also determines the Khilt production. Khilt Balgham is the first Khilt to be generated on obtaining relatively less degree of heat of liver. Next is Khilt Dam with moderate heat of liver. While, Khilt Safra follows with pretty intense heat of liver. And finally Khilt Sauda is produced with extreme heat of the liver. [9, 14] In Hazm Urooqi (vascular digestion), the Akhlat are converted into chemical substance (energy). They circulate in the vessels getting closer to the tissue state ready for assimilation in different organs, for wearing and growth, and replenishing the loss which is known as Hazm Uzwi (tissue digestion).

In the context of Khilt Sauda, its normal production needs a relatively higher degree of Hararat (heat) of liver within physiological limits and hence is very hot at the time of production. But once after its genesis, it turns most Barid Yabis in quality, Kathif and Ghaleez in consistency, black in colour. Which is further stored in the spleen. The position of Sauda amongst Akhlat is inferior. However, it does not mean that it has no merits. It serves so many physiological functions in the body. It renders nourishment to bones and hair, protects skin from U-V radiations, increases the viscosity of blood etc.

However, production of Khilt Sauda in exess quantity or extreme quality in the form of ‘Mirrah Sauda’, both are responsible for change in Mizaj and thereby functions of the organs that are being nourished. In contrast, the Sue Mizaj Haar of organs deranges the quality of Akhlat that reaches for replenishment by the process of Istiraq converting it into abnormal Sauda. The altered Sauda can be of the following kinds Sauda Balghami produced by Istiraq Balgham, Sauda Damwi as the result of Istiraq Dam, Sauda Safrawi as a consequence of Istiraq Safra and Sauda Saudawi as the outcome of Istiraq Sauda itself. Both quality and quantity of altered Sauda are responsible for somatic, vegetative and mental attributes. These altered Sauda being extremely hot in quality and Akkal (irritative) in nature causes Istiraq in organs. Due to Istiraq in them, the quantity-quality ratio of Arkan changes and so their Mizaj alters. In consequence, their Surat Naw’a and functions are altered. Thus the altered Sauda erodes the tissues and produce malignant changes altering their Surat Naw’a (structure) termed as Sartan. [9, 11, 13, 14, 17]

PRINCIPLES OF MANAGEMENT

The principles of management in Unani medicine include Ilaj-bil-Ghiza (dietotherapy), Ilaj-bid-Dawa (drug therapy), Ilaj-bit-Tadbeer (regimenal therapy) and Ilaj-bit-Yad(surgery). It depends on the cause of disease for selecting the mode of treatment or multiple regimens. As per classical text there are four aims of treating the cancer viz: (a) complete resolution of growth including root (b) arrest the spread of cancer (c) prevent from ulceration (d) if ulcerated, treat accordingly. Before planning the management of cancer it is important to know whether it is acute or chronic, if it is chronic then it is very difficult to treat. But initially growth may be managed by Tanqia Mawad (evacuation of morbid humour) and food having cold and moist temperament like Kashkab (fermented barley) with Roghan Badam (almond oil), fish, half fried egg, Moong (red lentils), Palak (spinach), and Kaddu (pumpkin).[11, 18] Jalinoos(Galen) and Ibn Sina (Avicenna) stated that, do not treat cancer which are developed inside the body and unable to observe by naked eyes. If removal of morbid Akhlat had been done in such a way like Fasd (venesection) and steady purgation, with balanced diet having the property to produced normal blood then it can be treated safely.[12] Combustion of all Akhlat due to vitiation occurs in liver due to
alteration in its temperament, eating of Sauda producing food and excessive heat. Spleen is unable to absorb this morbid Sauda which makes blood more viscous and when it gets Mukaddar (turbid) and gets lodged in any organ it causes development of cancer. It can be treated by food of cold temperament, suitable drugs and local application (ointment) which prevent liver to further produce morbid Akhlat [12, 18].

ILAJ-BIL-GHIZA (DIETOTHERAPY)

Diet play a vital role in treatment as it provides the fuel for the body. If the cause is minor then it can be treated only by advising the balanced diet and no drug is required, which is termed as Ilaj-bil-Ghiza. Sauda producing food is harmful in patients of cancer, hence to be avoided. The diet must be of those kinds which is Jaityadal Kaimoos (easily digestible) and Latif (light diet) and do not produces Sauda. [11] Before planning the management of cancer it is important to know whether it is acute or chronic in the body, if chronic it is very difficult to treat, but can be managed initially by treating with Tanqia Mawaad and food having cold and moist temperament like Kaddu (Cucurbita maxima) which possess anti cancerous activity[18] Maus-Shaeer (water of Hordeum vulgare), Zardi BatzaeMurgh (egg yolk), Samake Zarazi (fish).[11]Cholai (Amaranthuspolygamus), Khurfa (Portulacacoleracea), Nabeez (Arisht), Bathua (Chenopodium album), Maul Juhn (Cow’s churn milk), Kheera (Cucumissativus), and goat meat soup.[7, 19, 20] Food items contraindicated in cancer are Masoor dal (red lentils), Karam Kalla (cabbage), cow beef, wild animal beef, dry fruits and concentrated liquor etc [7, 20].

ILAJ-BID-DAWA (DRUG THERAPY)

Cancer can only be treated in its initial stage but the diagnosis is very difficult. For this Unani physicians advocated not only restriction of diet but also effective formulations as discussed below.

High potency Mohallil (resolvent) drugs are contraindicated in this disease as it may resolve the liquid part of Khilt(humour) and viscous part gets thicker which ultimately causes the disease. Instead of it, use such Mohallilat (resolvents) as an ointment which resolve insidiously like Tootiya Maghsool (copper sulphate) and Roghan Gul (rose oil). Zaroor (used as powder on ulceration) formulation contains Nishasta (starch), Kundur (Gum-resin of Boswellia serrata Roxb.), Safeda Kashgari (zinc oxide) each 3.5 grams pulverized and sprinkled on ulcer or mixed with RoghanGul (rose oil) and used as an ointment. Another combination to be used as an ointment is ash of river crab, Aglimiya (Silver oxide) in same ratio mixed with Roghan-e-Mom (bee wax)[18].

MUNZIJ-E-SAUEDA (CONCOCTIVE FORMULATION)

Aslussoos (Glycyrrhizaglabra), Gaozaban (Borage officinalis), Gul-e-Gaazzaban (flower of Borage officinalis) 5 grams each, Badyan(Foeniculumvulgare), Beekh-e-Badyan (root of Foeniculumvulgare), Beekhe Kasni (root of Cichoriumintybus), Tukhme Kasni (seeds ofCichoriumintybus), all are partially grounded, GuleSurkh (Rosa damascena), Ustukhuddus (Lavandula stoechas), Shahtara (Fumaria officinalis), Tukhme Khatmi (Althaea officinalis) each 7 grams, Aloo Bukhara (Prunusdomestica) 5 no. medium size, Maweez-Manaqqa (Vitis vinsmifera) 9 no. medium size. All drugs to be soaked in 300 ml of water at night, boiled in morning, filtered and mix 40 grams of Gulqand (sweet preserve of rose petals) then drink it after filtration [21].

MUS’HIL-E-SAUDa (PURGATIVE FORMULATION)

After giving above formulation for 20-30 days add this formulation: Imli (Tamarindus indica)fruit), Aloo Bukhara (Prunus domesticafruit) each 20 grams, Aftimoon (Cuscuta reflexa whole plant), Sanae Makki (Cassia angustifoliatleaves) each 15 grams, Banafsha (Viola odorata flower), Shahtara (Fumaria officinalis leaves and flower) each 13 grams, Sheer Khasht (Tamarindica secretion), Khamara Banafsha (Unani compound formulation) each 55 grams. First Sanaa Makki, Banafsha and Shahtara boiled then mix remaining drugs, after filtering give it to the patient. [21]

The recent studies in the field of herbal cancer therapy indirectly support and validate the Unani theory of humors particularly Sauda (black bile). Many single drugs, used in Unani system for the disease, have been evaluated for anticancer activity [22-32] and found to be very effective. However, no attention has been paid to elucidate the efficacy of compound formulations.

EFFECTIVE COMPOUND UNANI FORMULATIONS FOR EVACUATION OF MORBID SAUDA:

a. Kharbaq Siyah (Picrorhiza kurroo root) 375 mg, Habbul Neel (Ipomoea nil seeds) 256 mg, Shahtara (Fumaria officinalis leaves and flower) 375
mg, HabbulGhar (Juniperus communis fruit) 375 mg, Shahme Hanzal (Citrusxucosynthisthus pulp) 512 mg, Afsanteen (whole plant of Artemisia absinthium) 1024 mg Ghariqoon (Polyporus officinalis fungus) 1024 mg, Ayarij Faiqra (Unani compound formulation) 1.75 gm, Milhe Nafti (black salt) 630 mg and Saqmooniya (resin of Convolvulus scammonia) 630 mg, powder all drugs and sieve it through silk cloth and make tablet of pepper size using cabbage water as a binder. Dose: 12 gm once in a week. [7]


In Unani system, Bisfajj is also considered to be a potent drug for evacuation of Mirrah Sauda like other ingredients of this formulation. It has also been reported for various pharmacological activities, viz. antioxidant and antimicrobial, [33] antiepileptic, antipyretic, analgesic and hypotensive activities. [34] However, no anticancer activity is reported till date. The promising therapeutic values of these drugs and their pharmacological activity imply that the formulation may be a new source of anticancer medicine.

c. Use of Aftimoon(Cuscutareflexa) with Maul jumb(cow’s churned milk) is thought to be most efficacious in this context.[7, 35]

FORMULATION FOR ULCERATED LESION (LOCALLY)

Haldi (Curcuma longa), Asfidajj (lead carbonate), Kundur (BoswelliaserrataRoxb.), Elva (Aloe barbadensis), and Gile-Armani (Arminium bole) powdered in equal ratio and make ointment mixing in Roghane-Gul and apply on lesion.[12]

1. Haldi (Curcuma longa), Asfidajj (lead carbonate), Rasas(lead), and Gile-Armani (Arminium bole) take all medicine in equal quantity then powdered it and makes paste by mixing in Roghan-e-Gul (rose oil) and Aabe-Mako (boiled water of Solanumnigrum) for application.[12]

2. Effective formulation in ulcerated cancer. SharabeQabiz (astringent liquor), Sumaq (Rhuscoriaria), and Salikha (Cinnamomum cassia) each in equal amount. Dip all the drugs for four days in liquor and boil it until it had a consistency like honey, keep it in glass vessels until it gets more viscous and again add some liquor then apply on the wound. If growth is pulsatile, add milk and used locally as it had a remarkable properties to treat these kinds of growth. [12]

FORMULATION FOR NON ULCERATED WOUND (LOCALLY)

1. Powder of Toodri (Lepidiumiberis), water and honey as ointment.
2. Ash of crab found in river mixed with honey and apply.
3. Ash of KaramKalla (cabbage) dried plant’s root with the help of oil as ointment. [12]

ILAJ-BIT-TADBEER (REGIMENAL THERAPY)

The basic concept of Unani principle regarding the treatment of Sue-Mizaj (altered temperament) depends upon cause viz; alteration of Mizaj alone or with morbid Madda (humor). If no Madda (morbidity matter) is involved, it may be managed with reverting of the Mizaj using simple measures. But if morbid Khilt is involved, it would require evacuation. For this purpose regimenal therapy is one of the most suitable methods along with drugs. Regimens not only eliminate the morbid akhlat but also check its spread to near vital organs and maintain health by recuperation of humours.[36]

Regimens used in the management of cancer are discussed below.

1. Fasd (Venesection); Rag-e-Akhal (Median Cubital Vein)[11, 20]
2. Is’hal (Purgation); decoction of Aftimoon (Cuscuta reflexa) (18 gm) with Maul Jumb for few days or MaulAsl. Decoction of Aftimoon (Cuscuta reflexa) with Sikanjamin (compound formulation), those who are strong in built and temperament can be used Ayarij Kharbaq. [18]
3. Nutool (Doucheing) [12]
4. Hamam (Steam bath)[12]
5. Tila (application of lintment) and Zimadlagana (external application of ointment)[12]

ILAJ-BIL-YAD (SURGERY)

Those small cancers which are away from the vital organs can be excised surgically, but after Tanqia of morbid akhlat from the body.[11, 18] Cancer situated
deep inside the tissue cannot be surgically removed as surgeon is unable to cut its root resulting in severe complications, hence only analgesic drugs are advised. [12]

PROCEDURE

Cut the whole growth with margins up to healthy tissue and leaves it for few minutes for fresh blood to ooze. Treat the wound with ointments and sometimes cauterization is applied to arrest the spread but it may be prone to gets gangrenous especially those cancers which are close to vital organs.[12, 18]

Ibn Sina quoted a case report of breast cancer in which one of the surgeons removed the whole breast when diagnosed a cancer in female breast. After few days cancer had developed in the other breast. It proves that the concept of metastasis was prevalent in those periods.[11]

COMPLICATIONS

Cancer may be treated in its early stages but when it is of recent origin. Surgical removal of growth is dangerous and poses many complications described below.

1. Severe hemorrhage especially when so many tributaries are deeply engrossed thus restricts the role of surgical removal of tumors.
2. Severe pain because of continuous oozing fluid from ulcerated wound is an impediment for surgical management due to dearth and adverse effects of sedatives.
3. There is no assurance of successful treatment as Avicenna observed in his practice that removal of one breast led to recurrence of other, thus the concept of metastasis was laid by him. [12]

FUTURE STRATEGIES FOR RESEARCH IN UNANI MEDICINE

Anticancer studies of Unani drugs may be carried out in vitro as well as in vivo models. Different cancer cell lines such as HeLa (Cervix adenocarcinoma), MCF-7 (Breast adenocarcinoma), HT-29 (Colon adenocarcinoma), A549 (Lung carcinoma), HEP-G2 (Hepatocellular carcinoma), K-562 (Chronic myeloid leukaemia), PC3 (Prostate adenocarcinoma) and A375 (Malignant melanoma) have been widely used for research purposes. The usage of cancer cell lines enables an increment of the facts about the deregulated genes and signaling pathways in this disease.[37] Swiss albino mice are commonly used as in vivo model for anticancer preclinical studies. Carcinoma is induced in mice by implantation of commonly used two cancer cells such as Ehrlich ascites carcinoma and Dalton’s lymphoma ascites cells. [38] Various concentration of extract of Unani drugs may be studied on the above cell lines.

Adjuvant or adjunct therapy is given in addition to the primary treatment to enhance its efficacy or it alters the effect of another agent. The surgeries and multifarious treatment regimens used in its management have led the word to be used mostly to define adjuvant cancer care. Traditional medicines can play a vital role in such studies. But the constraint is that unless in vitro and in vivo studies reveal promising results it cannot be administered without undergoing above studies.

CONCLUSION

Although widespread research for management of cancer has been going on and present treatment causes so many adverse effects with enormous financial implications, therefore a huge unconsummated need of better intervention is to be explored that has no or less side effects, easily available and above all cost effective in cancer treatment. Unani physicians have not only described the concept of Sartan but also cited its management through different regimens which remains unexplored. Linkage of cancer to erratic life style and hereditary factors had been quoted by Unani scholar’s way back in 12th century itself. Many single drugs used in Unani system for the disease, have been evaluated for anticancer activity and found to be very effective. However, no attention has been paid to elucidate the efficacy of compound formulations. The promising therapeutic values of these drugs and their pharmacological activity imply that the formulation may be a new source of anticancer medicine.

Many novel compound formulations are prescribed in the classical text for which in vitro, in vivo and adjuvant studies are to be taken on war-footing basis to scientifically validate and testify the claims made by the ancient Unani physicians to alleviate the suffering humanity.

CONFLICT OF INTEREST

None

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