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## **Iltihab-E-Tajaweef-E-Anaf Muzmin (Chronic Sinusitis)- A Review**

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### **ABSTRACT**

Sinusitis is the inflammatory condition involving paranasal sinuses. The paranasal sinuses are air filled spaces in certain bone of skull and they are in direct communication with nasal cavity through their opening called ostia. The clinical manifestation of sinusitis is nasal discharge, headache, blocking of nose, changed nasal resonance, post nasal drip and pain with tenderness in affected sinus. It may be associated with fever occasionally. If the symptoms of sinus inflammation lasting >3 months, then the condition is called chronic sinusitis.<sup>1, 2,3,4,5</sup>. There is no separate description of chronic sinusitis (Iltihab-e-Tajaweef-e-Anaf Muzmin) in Unani literature. Several Unani physicians have described Nazla in lieu of the signs and symptoms of Warm Tajaweef-e-Anaf (sinusitis), with its types haad and muzmin<sup>6,7,8</sup>. Therefore the search for sinusitis in unani literature seems evasive, but the Unani physicians have rendered the description of Warm (inflammation), tajaweef (Cavities) and Majari (ducts), which can be correlated to present modern concept of sinusitis<sup>9,10</sup>. The terms Iltihab-e-Tajaweef-e-Anaf, Nazla, Zukam and Catarrh are used as synonymous for sinusitis which is classified in haad and Muzmin (acute and chronic). So, keeping the fact in mind want to established the clinical correlation with anaemia in the light of classical Unani literature as well as modern medicine.

**Keywords:** *Sinusitis; Iltihab-e-Tajaweef-e-Anaf; Nazla; Zukam; Catarrh; Warm haad & muzmin.*

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## INTRODUCTION

Sinusitis is the inflammatory condition involving paranasal sinuses. The clinical manifestation is Nasal discharge, headache, blocking of nose, changed nasal resonance, post nasal drip and pain with tenderness in affected sinus. If the symptoms of sinus inflammation lasting > 3 Months condition are called chronic sinusitis. Sinusitis has tremendous impact on public health. It is the 5<sup>th</sup> known disease of population. The statistics shows that 1 out of 7 in US and 1 out of 11 in India are suffering from chronic sinusitis. Therefore, the search for sinusitis in Unani literature seems evasive, but the unani physicians have rendered the description of Warm (inflammation), tajaweef (Cavities) and Anaf (Nose) which is correlated to the present modern concept of sinusitis<sup>9,10</sup>. So chronic sinusitis (Iltehahabe Tajaweef-e-Anaf Muzmin) is a major public help with this reason I have started correlation between *Iltehahabe Tajaweef-e-Anaf Muzmin* and chronic sinusitis with the help of classical Unani literature on the basis of causes clinical features pathogenesis and their management on the basis of modern parameter clinical features and pathogenesis and management.

## MATERIALS AND METHOD

Review material collected from the different ancient Unani books, PG Dissertation, online authentic research Journals & different websites and summarized with the help of computer.

## LITERATURE REVIEW

**Tajaweef-E-Anaf (Paranasal Sinuses):** The term sinus means a hollow or a pocket. This word can be used to refer to cavities in many parts of the body, such as the renal sinus, the mastoid sinus or an aortic sinus. However, sinus generally refers to the paranasal sinuses, which lie closed to the nose. The most important sinuses lie above and below the eye sockets and behind the bridge of the nose. They are lined by moisture producing mucosal membrane. The purpose of the sinuses is to help moisturize the air which we breath. There are four types of paranasal sinuses: Frontal, Ethmoid, Sphenoid and Maxillary. Infection in them can block normal nasal drainage.

**Arastu (Aristotle)** was the first ancient Unani physician who had described the “Pituitary Gland” as Infundibulum, which literally means funnel shaped organ. He stated that this funnel shaped organ drains one of the four cardinal humours i.e. the phlegmatic humour, which comes from the higher brain. Some part of this phlegmatic humour also drains in to nose. Most of the Unani physicians say that the phlegm dripping into the throat is known as Nazla and to the nose is known as Zukam<sup>4,11,12,13,14,15</sup>.

**Hkm. Ghulam Jeelani** in his book Makhzanul Hikmat, stated that the term Nazla is derived from Arabic word Nuzool which mean dripping down. According to Rhezis Nazla is a condition in

which there is an increased nasal secretion along with irritation, dripping down towards larynx, pharynx or lungs<sup>9,16</sup>.

**Hkm. Mohammed Hassan Qureshi and Allama Nafees Ghouse Ibn Jamaluddin** described

The literal meaning and definitions of Nazla, Zukam and Catarrh in Jami-ul-Hikmat and Moalejat-e-Nafeesi. The literal meanings of term Nazla is “to descend”, that means Utrana. This is the condition, in which Dimaghi fuzlat from the ventricles of brain drip down through nose as nasal discharge. It is the state of inflammation of nasal mucosa<sup>9,17,18</sup>.

**Hkm. Abul Mansoorul Hassan and Kabiruddin** have described their views regarding the Nazla and Zukam in their books. According to them, Zukam is a condition in which a liquid material or secretions from the four ventricles of brain exit through nostrils. In Nazla same secretions salivate towards larynx. He differentiated Nazla and Zukam. He said that in Nazla there would be letting down of liquid substance towards lungs and thoracic region. In contrast the liquid secretion which comes down continuously through nose called Zukam<sup>9,19,20</sup>.

**Hkm. Kabiruddin** expressed the quotation of Buqrat very explicitly in his book Tarjuma-e-Sharh Asbab that “Zukam is the catarrhal condition of the nasal mucosa and Nazla is the inflammation of the nasal mucosa characterized by fluid discharge”<sup>9,19</sup>. Differentiating the nazla and zukam, the father of medicine Buqrat (460-377B.C.) stated that, zukam is the Nazla(coryza) of nasal mucosal lining in which the nasal mucosa actually gets involved and always associated with excessive discharge<sup>21</sup>.

**Hkm. Abdul Hassan Ahmed bin Mohammed Tabri and Ali bin Abbas Majoosi** defined the Zukam in their books as a condition in which there would be collection of those secretions (Ratubat) coming out from the ventricles (batan) and cavity (Jauf) of brain and ratubat get discharged through eyes, ears and nostrils. Sometimes the mucous or ratubat gets accumulated in the lung, pleural cavity and chest<sup>9,22,23</sup>.

**Ibn Abbas Majoosi** further described in Kamil-us-Sana under the heading of diseases of nose that iltihabe haar and iltihabe barid can affect the mucous membrane of the nose and produce symptoms, like heaviness (girani) and congestion (Tamaddud). In the same chapter he expresses the sudda (obstruction) in the cavities of the nasal bones is the possible cause of Muzmin ilthehab tajaweef anaf (Chronic sinusitis) The description of Anfi sudda (nasal obstruction) is found in Ghina-Muna also<sup>9,20,22</sup>.

**Ahmadul Hassan Jurjani** in his book Zakheera Khwarizam Shahi mentioned that Mavad nazla is sometimes hot and watery. And some time cold and viscid. Watery mucous is sometimes sour

(tursh), sometimes bitter (talkh) and viscid mucus is sometimes sour and sometimes tasteless and sometime pleasant in taste<sup>9, 24</sup>.

### **Factors Affecting Chronic Sinusitis:**

#### **Exciting factors:**

(a) Nasal Infection-Viral Rhinitis followed by bacterial invasion. (b) Swimming and Diving- Infected water can enter the sinuses through their ostia. (c) Trauma-Compound Fractures or penetrating injuries of sinuses. (d) Dental infections - Dental infection can extent to maxillary sinuses.

#### **Pre-disposing factors:**

- Obstruction to sinus ventilation and drainage. They are (1) Nasal packing. (2) Deviated septum. (3) Hypertrophic turbinates. (4) Oedema of sinus ostia due to allergy or vasomotor rhinitis. (5) Nasal polyps. (6) Structural abnormality. (7) Benign or malignant neoplasm.
- Stasis of secretions in the nasal cavity (1) Previous attacks of sinusitis: local defences of sinus mucosa are already damaged. (2) Sinusitis is common in cold and wet climate, pollution, smoke, dust, overcrowding and poor general health. (3) Some diseases like diabetes, immunodeficiency disease, measles and chicken pox.

### **Aetiology of Itihabe Tajaweef-E-Anaf Muzmin:**

As stated earlier that there is no specific description available regarding Warm Tajaweef-e-Anaf in Unani classic. Hence, no specific etiology can be noted but the ancient Unani Literature physicians described various predisposing factors leading to inflammation of cavities and ducts.

**Hkm. Gulam Jeelani** mentioned the causes of zukam and nazla barid in his book as follows (1) prolonged exposure to cold atmosphere (2) Usage of extreme cold water for longer period (3) Sudden changes from hot to cold or cold to hot atmospheres like exposure to cold after heavy exercises or hot bath and (4) development of Su-e-Mizaj barid in brain<sup>9,25</sup>.

**Hkm. Mohammed Hassan Qureshi** described in Jami-ulHikmat that cold temperament of the brain is one of the causes of nazla and zukam. He explained that due to cold temperament of brain; it gets contracted leading to release of ratubat. He mentioned the hot temperament of brain as the other cause for the discharge of ratubat from brain. If the cause lies in frontal lobe, the discharge drips into nose which is called zukam. If the cause lies in hind brain, the discharge drips into the throat as in case of nazla<sup>9,18</sup>.

**Hkm. Kabiruddin** writes that, su-e-mizaj of the brain is the cause of the disease. The exposure to extreme cold results in the thickness of scalp and the pores of the skin get closed, and the evaporation of mavad stops and gets accumulated in the brain<sup>19</sup>.

**Structural deformities of Majari and Tajaweef according to Ibne Sina:**

Deformities of ducts (Majari) It is the plural form of Majra (duct) meaning a passageway through which anything passes. Tajaweef is a hollow space within the organ which encloses a static substance moves in or out.<sup>9,26,27,28</sup>

- Dilatation of ducts
- Narrowing of ducts (contraction of ducts)
- Occlusion of ducts.<sup>29,30</sup>

**Deformities of cavities**

- Increase in size
- Decrease in size
- Occlusion in the cavity
- Emptiness in the cavity.

The unani physicians have mentioned many causes related to dilatation and narrowing of cavities and ducts.

Hkm. Kabiruddin mentioned in his book *Tarjuma wa Sharah Kulliyat-e-Qanoon* about the causes of *Tasaddud wa Tangi* (Occlusion and narrowing) of *tajaweef* and *Majari* as follows

1. There is affection of the duct due to warm (inflammation), which obstructs it (occludes it).
2. There is no disease but any foreign body, which occludes or obstructs it.

Warm *Tajaweef-e-Anaf* is actually an inflammation or warm of the cavities and ducts. In this way, it is considered as *amraze-tarkeeb* in Unani system of medicine.

**According to Ibn Sina (980-1037A.D.)**

The fate of swelling may be any one of from resolution, pus formation or induration. In *ilthehabe tajaweef-e-anaf* there is possibility of all these three<sup>9,21</sup>. Redness of face, eyes and fever are the manifestations of warm *nazla haar*, caused by *sudda* as described in *Al-Qanoon Fit-tibb*. In same text, Shaikh describes about the tension in the facial muscle found in *nazla barid* due to *sudda*.

All Unani physicians unanimously ascertain that the genesis of *nazla* is related with extrinsic and intrinsic causative factors. One or other of these causative factors causes *su-e-mizaj* (ill temperament) in the mucous membrane (*gisha-e-mukhati*). The mucous membrane gets inflamed and produces secretions which may be watery (*raqeeq*) or viscid (*ghaleez*), hot (*garm*) and irritant (*laza'e*) or cold (*barid*) and benign, distasteful or tasteless according to the causative factors<sup>25</sup>.

**Factors causing nazla and zukam:**

There are two factors produces *nazla* and *zुकam* External and Internal.

**External factors:**

- **Hararat-e-kharji (External hotness):** Hot temperament of brain caused by factors like sun heat or applying hot oils on head, inhalation of musk and saffron, which causes more hotness in brain leading to dissolution of fluids of brain (ratubat-e-dimaghi). When the brain over flows with these fluids (ratubat) then it exits out through nostrils.
- **Broodat-e-kharji (External coldness):** The temperament of brain becomes cold, due to infliction of external sources, like attack of cold in winter season. It may cause hardening of scalp skin and closure of skin resulting in accumulation of the fluids (ratubat).

**Internal factors:**

- **Hararat-e-dakhli (Internal hotness)** Nazla haar occurs due to domination of hot humours like blood and bile or a mixture of these humours. According to Ibn Sina Balgam-e-Maleh (one kind of abnormal balgam) which is hot in temperament may be responsible for occurrence of nazla haar in susceptible individuals.
- **Baroodat-E-dakhli (Internal coldness) Nazla barid** occurs in persons with cold temperament or individuals whose temperament has been altered into cold temperament due to excessive cold baths, cold humid environment. Nazla barid predominantly inflicts the people with cold temperament which occurs due to preponderance of phlegmatic humour in the body<sup>25,31,32,33,34,35,36,37</sup>.

Our Unani physicians have also mentioned the role of local irritants like pollens, cotton, fur, feathers, dust grit and soil of different temperament from various countries, and involvement of gastro intestinal tract in the development of Nazla<sup>38,39</sup>.

**CLINICAL FEATURES OF CHRONIC SINUSITIS**

The main clinical manifestation of chronic sinusitis is headache. The sinus pain shows following peculiarities. Infection or blockage of paranasal sinuses is accompanied by pain over the affected maxillary or frontal sinuses. Usually it is associated with tenderness of the skin in the same distribution. Pain from the ethmoid and sphenoid sinuses is localized deep in the midline behind the nose or occasionally in the vertex (especially in the disease of sphenoid sinus) or other part of the cranium. The mechanism in these cases involved is pressure and irritation of pain sensitive sinus walls. The sinus pain may have two remarkable properties:

- When throbbing, it may be abolished by compressing the carotid artery on the same side.
- It reoccurs and subsides periodically depending upon the drainage. With frontal and ethmoidal sinusitis, the pain tends to be worse on awakening and gradually subsides when person is upright. The opposite pertains with maxillary and sphenoidal sinusitis. Frontal

headache is usually severe and localized over the affected sinuses. It comes up on waking, gradually increases and reaches its peak by about mid-day and then starts subsiding. It is also called "office headache", because of its presence during the office hours.

Tenderness-Tapping over the anterior wall of the frontal sinus in the medial part of supraorbital region.

Oedema of upper eye-lid with stuffed conjunctiva and photophobia.

Nasal discharge-A vertical streak of mucous is seen high up in the anterior part of the middle meatus.

**Other clinical symptoms of chronic sinusitis are:** Malaise, Body ache, Fever

- Pain-Typically it is situated over the upper jaw but may be referred to gums and teeth.
- Redness and oedema of cheeks-The lower eye-lid may become puffy.
- Nasal discharge-Anterior Rhinoscopy shows pus or mucous in the middle meatus, mucosa of middle meatus appears red & swollen.
- Postural test-If no pus is seen in the middle meatus the patient is made to sit for 15 to 20 minutes with the affected sinus turned up, will show discharge in the middle meatus.
- Postnasal discharge-Pus may be seen on the upper soft palate on posterior rhinoscopy.
- Sneezing- it may be mild to moderate or so severe, that could hamper the routine works<sup>17,18,19,20,22,24,40,41,42,43,44,45</sup>.

## COMPLICATIONS OF CHRONIC SINUSITIS

- Intracranial complications
- Orbital complications
- Osteomyelitis
- Descending infection
- Focal infection.

### **Intracranial Complications:**

Frontal sinus, ethmoidal sinus and sphenoidal Sinuses are very closely related to cranial fossa and infection from these can cause<sup>46</sup>.

- Meningitis
- Encephalitis
- Extradural abscess
- Subdural abscess
- Brain abscess

- Cavernous sinus thrombosis

**Orbital Complication:**

Orbit and its contents are closely related to the ethmoid, frontal and maxillary sinuses but most of the complications follow infection of ethmoid as they are separated from the orbit only by a thin membrane or lamina of bone, Lamina papyracea<sup>46</sup>. Orbital complications include;

- Inflammatory oedema of lids.
- Subperiosteal abscess.
- Orbital cellulites
- Orbital abscess.

**Osteomyelitis:**

Osteomyelitis is infection of bone-marrow and it is seen in case of maxillary sinuses and frontal sinuses which contains marrow. Osteitis which is infection of a compact bone.

**Descending Infections:**

In suppurative sinusitis discharge constantly flows into the pharynx and can cause or aggravate

- Otitis media
- Pharyngitis Tonsillitis
- Persistent laryngitis.

**Focal Infections:**

- Polyarthrititis
- Tenosynovitis
- Fibrositis.

**Classification Of Warm Tajaweef-E-Anaf:**

According to M-a-dda (Akhlal) involved, warm tajaweef-e-anaf is of four types.

1. Damvi
2. Balghami
3. Safravi
4. Saudavi

According to mizaj-e-marz, Warm Tajaweef-e-Anaf is also classified is two types:

1. Haar (Hot)
2. Barid (Cold)

As far as Unani ancient classics concerns, both safra and dam having haar (hot) temperament, therefore both safravi and damvi sinusitis comes under same term that is warm Tajaweef-e-Anaf Har, hence both are being treated with same line of treatment. By other hand balgham and sauda

both are having Barid (cold) temperament, therefore both balghami and saudavi sinusitis comes under same term that is warm tajaweef-e-anaf barid. Hence both are being treated by same line of treatment. According to ancient Unani physicians, in acute diseases the khilt-e-safra and dam are mainly involved, while in chronic diseases the khilt-e-balgham and sauda are mainly involved. As far as chronic sinusitis is concern, its sign and symptoms are closely related to Warm Tajaweef-e-Anaf barid, in which the akhlat mainly involved, are balgham and sauda. On the basis of all available information, it is to be assumed that Warm Tajaweef-e-Anaf Muzmin is Warm Tajaweef-e-Anaf Barid <sup>32,33,34,35,36,37,47,48,49</sup>.

## **SYMPTOMS AND SIGNS OF DIFFERENT TYPES OF WARM TAJAWEEF- E ANAF**

### **Damvi:**

Patients having watery nasal discharge, with mild irritation in nostrils, redness of eyes, headache associated with heaviness, feels drowsy, itching sensation over gums and ears, sweat test of mouth etc.

### **Balghami:**

Patients having complaints of headache associated with heaviness, nasal speech, anosmia, impaired test, reduced sensation over tongue, sometime patient may give history of, off and on tongue bite, viscid and whitish nasal discharge etc.

### **Safravi:**

Patients feels burning sensation in nostrils, sharp headache, excessive thirst, bitter test of mouth, burning sensation in eyes, lacrimation, watery nasal discharge, which is quiet irritating in nature.

### **Saudavi:**

It is very rare type. Patient feels dryness in eyes, burning smell or smell, like smoke, associated with all symptoms like in warm tajaweef-e-anaf balghami.

## **MODERN TREATMENT**

**Corticosteroids (CCSs)** are potent anti-inflammatory agents, and as such, would seem to be a logical choice to treat chronic sinusitis. Although intranasal CCSs are unlikely to reach the paranasal sinuses, they do improve nasal congestion, which is often a significant symptomatic component in chronic sinusitis.

- **Intranasal CCSs** have also been shown to shrink nasal polyps. These benefits, combined with their relatively safe profile, make topical intranasal steroids a reasonable adjunctive therapy.
- **Systemic corticosteroids** are also widely used in clinical practice. Recently, a double-blind placebo-controlled trial of prednisolone, 50 mg daily for 14 days versus placebo,

demonstrated improvement of sinonasal polyposis as measured by symptom scores, nasal endoscopy, and MRI. The use of antibiotic treatment in chronic sinusitis is quite controversial<sup>50</sup>.

Patients with chronic sinusitis may also present with acute bacterial sinusitis, and in these patients, antibiotics are indicated. Immunocompromised patients are at higher risk a chronic infectious process, and may need to be treated with antimicrobial therapy. However, often acute exacerbations may be caused by reasons non-infectious in nature, such as allergic or nonallergic rhinitis. In these cases, treating the underlying disease is more appropriate. Aspirin sensitivity is often present in patients with nasal polyps. In patients with aspirin-exacerbated respiratory disease (AERD), aspirin desensitization, followed by long term treatment (650 mg twice a day), have demonstrated improvement of clinical outcomes and decrease in the requirement for systemic corticosteroids<sup>51</sup>.

Cysteinyl leukotrienes are proinflammatory mediators, and are especially elevated in patients with chronic sinusitis and AERD. Several pharmacologic agents target disruption of this pathway, and are collectively known as leukotriene modifiers. In a placebo-controlled study of aspirin intolerant asthmatics, zileuton, one such leukotriene modifier, reduced polyp size and restored the sense of smell<sup>52</sup>.

**Surgical management** may be indicated in cases refractory to medical management. In a randomized controlled study comparing medical versus combined medical and surgical treatment of nasal polyposis, medical treatment alone was often sufficient to treat most symptoms. However, if the, primary complaint is nasal obstruction, despite corticosteroid treatment, surgical intervention is indicated<sup>53</sup>.

## UNANI TREATMENT

### Usool-e-Ilaj of warm Tajaweef-e-Anaf Muzmin:

- The treatment consists of general, local and prophylactic treatment or preventive measures. General treatment consists of moderating the altered humours and correction of imbalanced temperament.
- In chronic cases concoctive, anti-inflammatory, antiseptic drugs are used to dissolve inflammation and to correct altered cold temperament and dominant phlegmatic humour.
- Local treatment consists of repeated inhalations, inkebab (fomentation) and local application of anti-inflammatory (Mohalil-e-auram) agents which may liquify the viscid humours (which blocks the ostium of the sinuses) they reduce the inflammation. According to the Unani system of medicine the treatment of warm (inflammation) consists of

treatment of acute inflammation (ilthehab-e-haad) and treatment of chronic inflammation (iltihab-e-muzmin).

- The treatment of warm-e-muzmin(chronic inflammation) consist of detection and removal of the causative agent, giving rest to affected part, concoction, use of anti-inflammatory, antiseptic and local anti-inflammatory drugs, use of inkebab, inhalation and improvement in the Tabiat-emudabbir-e-badan or Tabiat.

According to **Ibn Sina and Zakaria Razi**, the treatment of nazla barid and haar is based on these principles which are as follows.

- The source of cold and heat should be eliminated.
- Concoction and purgation should be done.
- Causative factor which are chiefly is responsible to produce the disease, should be treated.
- Correction of the altered temperament.
- The flow of Madda (Mucus) should be altered from the throat towards the nose.
- The Madda should be altered in such a way that excrete easily<sup>9,10,23,25,31,47,48,49,54,55,56,57,58,59</sup>.

## CONCLUSION

Sinusitis is the inflammatory condition involving paranasal sinuses. The paranasal sinuses are air filled spaces in certain bone of skull and they are in direct communication with nasal cavity through their opening called ostia. The clinical manifestation of sinusitis is headache, nasal discharge, blocking of nose, malaise, and sneezing, hypertrophied nasal mucosa and deviated nasal septum. It may be associated with fever occasionally. If the symptoms of sinus inflammation lasting >3 months, then the condition is called chronic sinusitis. Sinusitis is literally termed as chronic sinusitis, as there is no direct description available in Unani literature, but the features described by the ancient Unani Physicians under the chapter of nazla haar and nazla barid in various Unani books with the sign and symptoms of chronic sinusitis.

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