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Sublingual route of drug administration in unani medicine: A historical perspective

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Abstract

The Unani Medicine is fundamentally based on Hippocratic doctrine of four humours and temperamentology. Approximately, 90 drug dosage forms have been described in Unani pharmacopoeias. The sublingual tablet or pill is one of the dosage forms used for the management of various emergency conditions like ischaemic heart diseases, hypertension, dysphagia etc. Ibn Sina has mentioned a recipe of sub lingual dosage form which is used for the treatment of sore throat, loss of voice and diseases of trachea. The stake holders of Unani system of medicine should thoroughly explore this sublingual vital route, by developing such drug dosage forms which may be prescribed for the management of various ailments.

Keywords: Sublingual route, unani medicine, *Al-Qanun fit Tib*, IBN sina

Introduction

Unani Medicine

The Unani system of medicine is one of the oldest systems of medicine which has been introduced in Greece and later established in Rome, Arabs, Spain, Iran and India. This system of medicine is mainly based on the teachings of Hippocrates (460-370 BC), primarily on his doctrine of four humours viz. *Dam'* (Sanguineous humour), *Balgham* (Phlegm), *Safra'* (Bilious humour) and *Sawda'* (Melancholic humour) with their four temperamental qualities viz. hot and moist, cold and moist, hot and dry, & cold and dry respectively. Furthermore, the human body is composed with seven basic principles viz. *Arkān* (Elements), *Mizāj* (Temperament), *Akhlāt* (Humours), *A'dā'* (Organs), *Arwāh* (Pneuma), *Quwā* (faculties) and *Af'āl* (Functions). The mere absence of any of the component threatens the very existence of life and derangement of body constituents which results in disease. Hence, the main aim of a Unani physician is to restore the balance primarily by aiding bodily faculties' viz. *Tabī'at Mudabbir-i-Badan* (Medicatrix naturae) [1].

Dosage forms of Unani Medicine

In Unani Medicine, nearly 90 dosage forms are described. These dosage forms are basically classified into four categories namely solid, semi solid, liquid and gaseous dosage forms. The common dosage forms are *Habb* (Pill), *Qūrs* (Tablet), *Sufūf* (Powder), *Shiyāf* (Suppository) *Ma'jūn* (Confection), *Jawārish*, *Itrīfal*, *Khamīra* (Fermented confection), *La'uq* (Linctus), *Labūb*, *Tiryāq* (Anti-dote), *Sharbat* (Syrup), *Joshānda* (Decoction), *Khisānda* (Infusion), *Shamūm* (Olfaction), *Lakhlākha* (Inhalation) etc [2]. The sublingual tablet is a type of solid dosage forms which is used since time immemorial.

Sublingual route of drug administration

This is a preferable route for drug administration and produces local and systemic effects. This route of drug administration has several advantages such as quick onset of action, enhanced bioavailability, no first pass effect, avoidance of food-drug interactions, improve patients' compliance, easy self medication etc. The absorption of drug through sublingual route depends on the permeability of sublingual membrane, physico-chemical properties of the drug and design of dosage form. Following absorption, the drug directly diffuses into the venous blood and reaches in the systemic circulation. The increased blood supply and high permeability of sublingual mucosa accelerates absorption of the drug [3].

Sublingual dosage form

The sublingual drug dosage form has gained much popularity and wide acceptance due to many reasons such as fast disintegration, quick dissolving, rapid absorption and improved patients' compliance. Such drugs are mainly used in the form of tablets which are placed under the tongue from where it is absorbed through sublingual and other reticulated veins lying underneath the oral mucosa; reach directly into systemic circulation and bypass the liver metabolism [4]. In modern pharmaceuticals, the sublingual tablets are used for the treatment of certain emergency conditions such as coronary artery diseases, hypertension, severe pain etc and also prefer in case of dysphagia [5]. The sublingual tablet is prepared using appropriate disintegrants, glidants, binders, lubricants, diluents etc.

Historical aspect of sublingual dosage form in Unani Medicine

Ibn Sina (980 – 1037 AD) in the 5th volume of *Al-Qanoon fit Tib* has explored the sublingual route for management of certain diseased conditions. He has mentioned a prescription of pill, to be used by sublingual route, containing Kateera (*Astragalus gummifer* Labill.) 13.5 g, Mur Makki (*Balsamodendron myrrha* Nees) 6.75 g, Kundur (*Boswellia serrata* Roxb.) 6.75 g, Zafaran (*Crocus sativus* Linn.) 4.5 g, Rub-us-Sus (Extract of *Glycyrrhiza glabra* Linn.) 2.25 g, and Lahem (a type of fish) 750 mg. He advised that 1.75 g of that pill can be given for the treatment of sore throat, loss of voice and diseases affecting trachea [6].

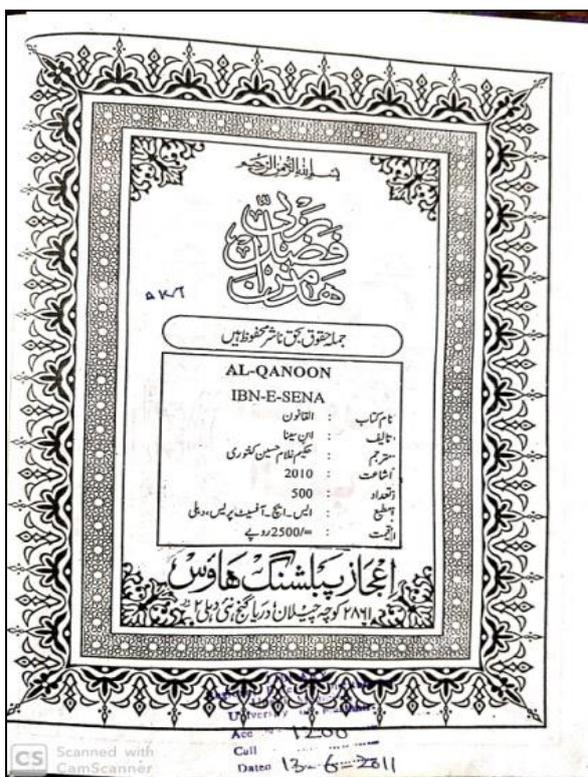


Fig 1: Al-Qanun fit Tib



Fig 2: Medicatrix naturae

Conclusion

The drug delivery through sublingual route can provide immediate effect in various emergency conditions such as ischaemic heart diseases (IHD), cerebrovascular accidents (CVA), hypertension, bronchial asthma, shock etc and also beneficial when the patient is unable to swallow the drug by oral route especially in cases of dysphagia. The history is suggested that the sublingual route of drug administration was in practice in Unani Medicine. The stake holders of Unani system of medicine should thoroughly explore this sublingual vital route, by developing such drug dosage forms which may be prescribed for the management of various ailments.

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