

Nonlactational Milk Discharge: An Ottoman Pharmaceutical Ingredient

Memeden Gelen Olağandışı Süt Benzeri Akıntı: Bir Osmanlı Tıbbi Droğu

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ABSTRACT

Numerous medical prescriptions are given in the 14th and 15th century medical manuscripts of the Ottoman period. However, only a small number of pharmaceutical preparations contain non-lactational milk production medically named **galactorrhea**. In this study, prescriptions which contain non-lactational milk are compiled from Turkish medical manuscripts of the 14th and 15th centuries. The non-lactational milk discharge is used as an ingredient or a medium or a coating in a medical composition, as well as a separate medical substance for the treatment of inflammation and suppuration. For example, in the 15th century, İbn-i Şerif recommended non-lactational milk in the treatment of lung diseases with cough, sputum and fever. The use of non-lactational milk as a drug for conjunctivitis, lung infection, ear infection, etc. have been discussed with examples in the early period of Ottoman medicine.

Keywords: Non-Lactational Milk, Ottoman Medical Manuscripts, A Natural Drug

ÖZ

XIV. ve XV. yüzyıl Osmanlı el yazmalarında sayısız tıbbi reçete yer almaktadır. Bu reçetelerin bir kısmında, tıbbi isimlendirmesiyle galaktore, yani memeden gelen olağandışı süt benzeri akıntının yer aldığı dikkat çekmektedir. Bu çalışmada, XIV. ve XV. yüzyıl Osmanlı dönemi el yazmalarında memeden gelen olağandışı süt benzeri akıntının yer aldığı terkipler tespit edilmiştir. Bu akıntının terkiplerde bir bileşen, bir medyum ya da bir sıvağ olarak yer aldığı gibi, iltihap ve cerahatlerin tedavisine yönelik ayrı bir tıbbi drog olarak da kullanıldığı görülmüştür. Örneğin, XV. yüzyılda İbn-i Şerif, öksürük, balgam ve ateşle seyreden akciğer hastalıklarının tedavisinde “kız-oğlan sütünü” tavsiye etmiştir. Erken dönem Osmanlı tıbbında memeden gelen olağandışı süt benzeri akıntının bir drog olarak konjunktivit, akciğer enfeksiyonu, kulak iltihabı gibi rahatsızlıklarda kullanılması tıbbi el yazmalarından örneklerle tartışılmıştır.

Anahtar Kelimeler: Sütsü Akıntı, Osmanlı Tıp Yazmaları, Tıbbi Droğu

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INTRODUCTION

Numerous medical prescriptions are given in Turkish medical manuscripts of the Ottoman period. Only a small number of pharmaceutical preparations contain non-lactational milk production medically named **galactorrhea**. **Galactorrhea** is the secretion of breast milk in women or men unrelated to the normal milk production of breast-feeding.¹

Though galactorrhea is a common finding in clinical endocrine practice it's an unusual occurrence.² Did the Ottoman healers had the opportunity to find non-lactational milk when needed? Were they aware of non-puerperal induced lactation?³⁻⁷ It is not possible to learn the answers of these questions.

As normal breast milk can be obtained much more easily why did Ottoman physicians prefer non-lactational milk discharge as a medicament? Did they see a special medical/ pharmaceutical effect of non-lactational milk? Or was it assessed as an extraordinary substance – taking advantage of the placebo effect in today's sense? We can find some answers to these questions.

A closer look at the disturbances non-lactational milk is recommended as a medicament by Ottoman physicians helps us to understand their therapeutic approaches. Inflammation and suppuration are common signs of the ailments recommended to be treated with non-lactational milk. Before the scientific era, treatment outcomes had to be observed and followed up carefully by early Ottoman physicians practicing their art based on professional experience. Our aim is to reason out the use of non-lactational milk as a drug in the early period of Ottoman medicine.

MATERIAL and METHOD

In Turkish medical literature of the Ottoman period, the milk-like substance from the breast is called “*kız oğlan sütü*”*, literally meaning “girl-boy milk/ virgin milk”. In the 14th and 15th centuries the non-lactational milk discharge is recorded as a drug alone or as an ingredient in medical compositions prescribed in the Ottoman medical manuscripts written in Turkish.

In this study, medical prescriptions containing non-lactational milk are compiled from Turkish medical manuscripts of the 14th and 15th centuries. The studied manuscripts are registered in the rare books sections of *Süleymaniye Yazma Eserler*, *Topkapı Palace*, *Konya Bölge Yazma Eserler*, *Tire Necip Paşa* and *Cerrahpaşa Medical History Museum* Libraries. These medical manuscripts are; İbrahim bin Abdullah's *Cerrâhnâme (Alâ'im-i Cerrâhîn)*, Hekim Hayreddin's *Kitâb-ı Akrahâdîn*, Hacı Paşa's *Et-Teshîl Fî't- Tıbb*, Abdülvehhab b. Yusuf Ibn-i Ahmed el-Mardânî's *Müntahâb-ı Fî't-Tıbb*, İbn-i Şerif's *Yadigâr*, and three manuscripts of unknown author: *Kitâb-ı Tıbb-ı Latîf* and *Cerrâhnâme Esbâbü'l- 'Alâmât*.⁸⁻¹⁴

The texts are in Ottoman Turkish language written with Arabic letters. The medical terminology unknown to today's researchers has been investigated from various sources.¹⁵⁻²⁵

RESULTS

Non-lactational milk is used as a medium or coating material together with drugs containing different active substances, as well as a separate medical substance for the treatment of inflammation. In

* Other similar terms are: *kız oğlan südi*, *kız oğlan südin*, *kız oğlan südü*

descriptions about the nature of the illnesses to be treated with non-lactational milk, we come across statements such as, “swelling, reddening and pain”⁸, “fever and cough with malodorous purulent sputum”¹², “suppuration discharge and bad smell in the urine and painful urination”¹⁰. As the humoral pathology was used to explain the etiology of disease, the cause of inflammatory disorders (diseases of swelling nature) were identified as “hot and sanguine natured humor”.²⁰

Ailments accompanied by inflammation, e.g. eye complaints, ear disorders, vesical calculus, pulmonary diseases (pneumonia, pleurisy, tuberculosis), foot disorders i.e. with signs of swelling, redness, soreness and suppuration were treated with non-lactational milk. Below, examples of prescriptions briefly transcribed from the cited medical writings will clarify the issue.

In eye flame, with signs of reddening, sporadic pain, runny lachrymal and sticking together of the eyelids, non-lactational milk is put on the eye to calm it, then the eye is washed promptly with warm water.¹⁰ According to another contemporary writer, first of all non-lactational milk is to be dropped on the eye together with egg white, then a cataplasm is applied; afterwards non-lactational milk is dropped again into the eye at night.¹² In another prescription, the jell like substance formed by soaked seeds of quince is pulverized with non-lactational milk and dropped into the eye.¹¹ According to another text, the collyrium prepared with several medical ingredients to be used in the treatment of eye ache with reddening and burring of the eye is dried and consumed when needed by pulverizing the medicament with a little non-lactational milk, and dropped into the eye at daybreak.⁹ If there’s pain because of conjunctivitis, opium is to be squashed with non-lactational milk and salved on the head, temples, all around the eye and the hands. It is noted that, “based on experience this mixture heals conjunctivitis.”¹³

Non-lactational milk is also prescribed for earache. The main sign of ear diseases of the swelling nature is asserted as severe earache. A recommended treatment in otalgia is dropping non-lactational milk into the ear. If it hurts too much, a little opium and some violet or rose oil is to be mashed with non-lactational milk and instilled into the ear.¹ If otalgia is especially hot in nature, that is febrile, it is indicated that squeezing milk from the breast into the ear is better. Another administration form is instilling rose oil and balsamic vinegar on the first day, then on the second day non-lactational milk is to be instilled when milked into the ear several times.¹⁴

If there’s kidney or bladder calculus with signs of suppuration discharge and bad smell in the urine and painful urination, non-lactational milk is advised to be dropped into the meatus of the penis.¹⁰

When continuous and mild fever and cough with malodorous purulent sputum are observed in pulmonary diseases such as tuberculosis, pneumonia and pleurisy, the patient is said to be nourished with virgin milk.¹²

Swelling, reddening and pain of the heel and the toes are treated by a medicine formed into small tablets which are smashed with one spoonful non-lactational milk to anoint the affliction, which is to be re-anointed when the medicine dried. For the treatment of inflamed foot another medicine shaped into the form of a nut - four of them being one dirham in weight- is pulverized with non-lactational milk and when needed it’s to be warmed before anointment.⁸

Non-lactational milk is one of the main ingredients in the cataplasms prepared for the treatment of gout / podagra. For example, a formulation of several drugs and a spoonful non-lactational milk is added and mixed with melted wax, then applied hot. In another prescription which is said to be administered when needed, a half spoonful non-lactational milk is added to another cataplasm formula. Still, a half spoonful non-lactational milk is added to a different cataplasm formula, to be heated before application.⁸

Other examples of the use of non-lactational milk as a drug are diseases of the head with hot natured humor and signs of red colored urination, high pulse rate and insomnia; intermittent fever; and skin disturbances.¹¹

DISCUSSION

Compared to easily obtained milk of breastfeeding women, was it possible to provide non-lactational milk when needed? As the duration of galactorrhea varies from 3 days to 19 years²⁶, it is likely that non-lactational milk was an accessible substance. It's also probable that these physicians were aware of non-puerperal induced lactation. However, we do not have concrete information in this regard. Nevertheless, it should not have been a readily available substance, being dependent on human consent.

As normal breast milk can be obtained much more easily why did some Ottoman physicians prefer non-lactational milk discharge as a medicament? Did Ottoman physicians assess non-lactational milk as an extraordinary substance – taking advantage of the placebo effect in today's sense? We should not ignore the possibility of an additional placebo effect of the non-lactational milk on patients as an extraordinary medical material.

Did the physicians see a special pharmaceutical effect of non-lactational milk? Ottoman physicians of the 14th and 15th centuries recommended non-lactational milk for the treatment of inflammation and suppuration. Signs and symptoms of disease and treatment outcomes were observed by Ottoman physicians practicing their art, though the humoral pathology was used to explain the etiology of disease. For example, while describing the nature of the illnesses to be treated by non-lactational milk or the medical compositions containing non-lactational milk, statements pointing to inflammation such as “diseases of sanguine and swelling nature” or “hot natured humor” are expressions based on humoral pathology. However, phrases like “swelling, reddening and pain”, “fever and cough with malodorous purulent sputum”, “suppuration discharge and bad smell in the urine and painful urination” reflect accumulated professional experience without any notion of microbiology afore the scientific era.⁹

When we refer to relevant publications about the biochemical nature of galactorrhea we encounter few studies.²⁶⁻²⁹ A former research revealed that “the chemical analysis of secretions from galactorrhea and of normal human breast milk are not identical. Three constituents, i.e. lactose, total lipids and total proteins were found present in significantly lower concentrations in secretions from patients with galactorrhea than in normal breast milk.^{26,27,29} A further study of the chemical analysis of secretions in galactorrhea fluid and breast milk inform about the different concentrations of their constituents. “Comparison between concentrations of milk constituents in the *breast secretion of a*

male with galactorrhea and the normal breast secretion of women showed that protein, alpha-lactalbumin, lactoferrin, albumin, immunoglobulin, Na, K, Cl levels are significantly higher in galactorrhea compared to normal breast secretion.”²⁷ Further studies of the composition of non-lactational breast secretion is needed. Let us take lactoferrin, one of the constituents as an example. Concentration of lactoferrin in a man with galactorrhea was founded to be 18.0 g/liter, while it's 1.2 - 0.46 g/liter in normal breast secretion from women.²⁷ Lactoferrin has antimicrobial activity (bactericide, fungicide, antiparasitic, antiviral), anti-cancer, and anti-allergic functions and properties. It is one of the components of the innate immune system of the body.³⁰⁻³⁴ Further study on the composition and effect of non-lactational milk discharge is needed.

CONCLUSIONS

Galactorrhea is the secretion of breast milk in men, or in women who are not breastfeeding an infant. Though galactorrhea is a common finding in clinical endocrine practice it's an unusual occurrence. Studying the Turkish medical manuscripts of the 14th and 15th centuries we observed that non-lactational milk production was prescribed as a medical material in pharmaceutical preparations, as well as a separate medical substance for the treatment of inflammation and suppuration. In fact, does non-lactational milk reduce inflammation, or prevent inflammatory responses and/or the production of pus or treat chronic inflammatory disorders? The answer to this question is a subject of research. Reaching the forgotten information can contribute to the discovery of new drugs.

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