

International Journal of Research Publication and Reviews

Journal homepage: www.ijrpr.com ISSN 2582-7421

Unani Approach to Diuresis (*Idrār-i-Bawl*) - Integrating Traditional Wisdom with Modern Insights

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ABSTRACT

Diuresis (Idrār-i-Bawl) is a process in which the formation and excretion of urine are increased for the management of bodily ailments. It is one of the important processes adopted for evacuation of morbid matter from the body through urine. In this paper classical literature is taken from classical Unani books like Kitab Al-Hawi, Al-Ikseer, Kitab Al Mukhtarat Fit-Tibb, Al-Qanoon Fit-Tib, Khazainul Advia, Tazkara Uool-al-Albab, Bayaz-e Kabeer, Firdos al Hikmat, Kamil Us Sanna etc., and modern literature is searched from Digital databases like Medline, PubMed, Google Scholar, and Science Direct for its complete description. Based on classical literature, this paper discusses the specifics of Diuresis, including its History, classification of Diuretics, Indications, Contraindications and Complications of Diuresis, and Abnormalities related to Micturition and their modalities of treatment.

Keywords - Diuresis, Idrār-i-Bawl, Unani, Al-Ikseer, Urine, Micturition

INTRODUCTION

The term *diuretic* comes from the Greek root "diu" meaning "through" and "διουρέω," which translates to "to urinate". A diuretic is any substance that boosts the flow of urine, leading to increased water excretion. Diuretics are some of the most commonly prescribed medications, primarily working by blocking the reabsorption of sodium chloride at various points in the nephron. This process helps the body eliminate more sodium and water through urine. ¹

Material and Methods

Unani classical literature was searched through Kitab Al-Hawi, Al-Ikseer, Kitab Al Mukhtarat Fit-Tibb, Al-Qanoon Fit-Tib, Khazainul Advia, Tazkara Uool-al-Albab, Bayaz-e Kabeer, Firdos al Hikmat, Kamil Us Sanna etc., for its complete description. For clinical studies and efficacy computerised databases such as Medline, PubMed, Google Scholar, and Science Direct were searched. We have searched classical literature from classical Unani books and modern literature for digital database.

DEFINITION

Diuresis, known as *Idrār-i-Bawl* in Unani medicine, is a natural process where urine production and excretion are increased to help the body get rid of unwanted substances. This process is important for clearing out morbid matter from the body and managing various health issues. Diuresis can be encouraged through simple practices like drinking cold water, exposure to cold temperatures, and consuming plenty of fluids. Additionally, certain drugs known as diuretics, or *Mudirrat-i-Bawl* in traditional Unani medicine, can be used to stimulate this process, as described in classical Unani texts.

The literal meaning of $Idr\bar{a}r$ is "To Release". In Unani medicine, the term $Idr\bar{a}r$ is frequently used for Diuretics. However, the term $Idr\bar{a}r$ is also used for the release of Menses, Milk, Semen and Saliva. On this basis, it is divided into the following types.^{3,4,5}

- 1. Idrār-i-Bawl (Release of Urine)
- 2. *Idrār-i- Ḥayḍ* (Release of Menses)
- 3. Idrār-i-Laban (Release of Milk)
- 4. Idrār-i-Manī (Release of Semen)
- 5. Idrār-i-Lu'āb e Dahan (Release of Saliva)
- 1. Idrār-i-Bawl (Diuresis)

The process of increasing urination by some drugs or diets is known as Diuresis. Drugs that increase urination are known as *Mudirrat-i-Bawl* (Diuretics).

Eg.-Aalu Balu (Prunus cerasus)

Brinjasif (Artemisia vulgaris)

Beekh-e-Badyan (Foeniculum vulgare)

Charchatah (Achyranthes aspera)

Dooqu (Peucedanum grande)

Persiavashan (Adiantumcapillus veneris)

Suddab (Ruta graveolens)

Tukhm-e-Khayar (Cucumis sativus)

2. Idrār E Ḥayḍ

The process of increasing menstrual flow in case of amenorrhoea, dysmenorrhoea, etc., through drugs/regimens is known as *Idrār E Ḥayḍ*. Drugs that stimulate menstruation are known as *Mudirrat i Ḥayḍ* (Emmenagogues). These drugs act in either of the two ways.

1. Certain medications enhance blood flow to the uterus by dilating its blood vessels. They also work to thin the blood, remove obstructions (*sudda*), and help restore normal uterine function.

Eg. - Tukhm e Karafs, Hab ul Qurtum

2. Emmenagogues which doesn't act directly on uterus, but they act indirectly and lead to menstruation.

Eg- a) Compounds that improve quality and quantity of blood e.g.- Faulad, Khubs ul Hadeed

- b) Drugs that stimulate the nervous system, such as compounds of Kuchla
- c) Drugs that cause irritation in neighbour organs of the uterus and lead to menses. Eg, Sibr.

Aloe vera due to its purgative function, causes irritation in intestines, which inturn stimulates uterus, resulting in menses.

Emmenagogues used in Unani medicine are Abhal (Juniperus communis), Karafs (Apium graveolens), Arand (Ricinus communis), Harmal (Peganum harmala), Afsanteen (Artemisia absinthium), Baboona (Matricaria chamomilla), Turmus (Lupinus albus), Murr (Commiphora myrrh), Suddab (Ruta graveolens), Ajwain desi (Trachyspermum ammi), Hilteet (Ferula asafoetida), Mashkatramashee, Majeth (Rubia cordifolia), Jaosheer (Opopanax chironium), Methi (Trigonella foenumgraecum), Post amaltas (Cassia fistula), Asarun (Asarum europaeum), Brinjasif (Achillea millefolium), Aelwa (Aloe barbadensis), Zafran (Crocus sativus), Jund bedastar (Castoreum), Marzanjosh (Origanum vulgare) etc.,6

3. Idrār-i-Laban

The process of increasing milk secretion is known as *Idrār-i-Laban*. Drugs that stimulate milk production are called *Mudirrat i Laban adviya* (Galactagogues). These drugs act in either of two ways -

1. Drugs that stimulate mammary glands to increase milk secretion.

Eg.- Anisoon, Shibbt, Sarson

2. Drugs that improve the quality of blood and increase milk production.

Eg.- Maghz Panbadana, Faulad

Galactagogues used in Unani medicine are Hulba (Trigonella foenum), Zīra (Cuminum cyminum), Panbadana (Gossypium arborenum), Kalonjī (Nigella sativa), Muslī safaid (Chlorophytum arundinacecum), Muslī siyāh (Curculigo orchioides)

4. Idrār-i-Luʻāb-i-Dahan

The process of increasing saliva secretion is known as *Idrār-i-Lu'āb-i-Dahan*. Drugs that increases saliva secretion are known as *Mudirrat-e-Lu'āb-i-Dahan* (Sialagogues). These drugs act on salivary glands and stimulate them.

Eg-Para (Mercury)

Naranj (Citrus modica)

Turb (Rafanus sativus)

Revand (Rheum palmatum)

Aqarqarha (Anacylus pyrethrum)

Leemun (Citrus lemonum)

Filfil Siyah (Piper nigrum)

Tambaku (Nicotinum tabacum)

Zanjabeel (Zingiber officinalis)

Tamar hindi (Tamarindus indica)

Sirka (Acetic acid)

Rai (Bressica alba, B. nigra)

Turshiyan (All types of Sour matters)

5. Idrār-i- Manī

The process of increasing semen production is known as *Idrār-i- Manī*. Drugs that are used to increase semen's quality and quantity are called *Mudirrat-i-Manī* (Semenagogues).

Eg- Musli safed (Chlorophytum arundinacecum),

Musli siyah (Curculigo orchioides)

Sataavar (Asparagus racemosus)

Shilajeet (Asphaltum)

Kushta e Nugra (Silver calx)

Kushta e Qalai (Tin Calx)

Ajmood (Petroselinum crispum)

Maghz Chilgoza (Pinus gerardiana⁷

Historical Perspective of Diuretics

Long before modern medicine, ancient civilizations discovered the natural diuretic powers of certain plants. In ancient Egypt, healers crafted blends of garlic, onion, parsley, juniper, and *dill (Anethum sowa)* to help flush out excess fluids. Meanwhile, the renowned Greek physician Hippocrates touted celery and asparagus as potent diuretics, harnessing the power of nature to promote healthy fluid balance.⁸

The *Ebers papyrus*, housed in the Berlin Museum, showcases ancient Egypt's advanced medical practices. This ancient text reveals the use of herbal remedies, where plants and minerals were combined with beer and honey. Notably, the Cardiac chapter of *Ebers papyrus* demonstrates Egyptian doctors' understanding of ascites, distinguishing between liver and heart-related causes, and prescribing targeted treatments, such as purgatives, for heart-related conditions. 1

Pedanius Dioscorides' *De Materia Medica* (40-90 CE) documents ancient Greece's use of diuretic plants and minerals, remaining a pharmacological authority for over 1,500 years.¹²

De Materia Medica, uncovered the secrets of nearly 600 plants,¹³ yielding 1,000 life-changing medicines. Among them, he discovered 100 plants with remarkable diuretic properties, Ten plants were considered exceptionally potent diuretics, including grass of Parnassus, Blue leek, Chickpea, Wild rocket, Cabbage, Onion, Cinnamon, Celtic spikenard, Celery and Wild iris.⁸

The ancient Greeks associated diuretic properties with plants rich in water and salt, often administering them with liquids. They recognized, however, that increased fluid intake might be the primary driver of urine production, rather than the plant's inherent properties.^{8,14}

Avicenna, a renowned Iranian physician (980-1037 AD), revolutionized medieval medicine with his comprehensive guide to herbal diuretics in *Canon of Medicine*. He prescribed these natural remedies for conditions characterized by excess fluid, such as fatigue, swelling, and fluid accumulation in the abdomen. His innovative classification system divided diuretics into two classes based on their therapeutic action and temperament –

- 1. Hot diuretics: Break down and dilute thickened fluids, facilitating their removal through the urinary tract. Though they are more potent, they are irritating and are contraindicated in urinary tract irritations,
- 2. Cold diuretics: Act as gentle cleansers, flushing out residual waste. These diuretics soothe and moisturise, making them ideal for dryness and injuries of the urinary tract.¹⁵

Despite limited modern research on Avicenna's introduced herbal diuretics, some studies affirm their properties:

- Cold diuretics like pumpkin seeds alleviate lower urinary tract symptoms in altered prostate health.¹⁶
- Hot diuretics like celery are contraindicated in symptomatic urinary tract infections due to their irritative effects.¹⁷

Recent findings support Avicenna's concept that Hot diuretics (parsley, celery) are strong diuretics. ¹⁸ Cold diuretics (Malvaceae) are mild diuretics. ¹⁹

There are several natural diuretics with differing temperaments and effects, often used to address urinary issues and improve health. For those with a hot temperament, strong diuretics such as Anisun (Pimpinella anisum), Shauniz (Nigella sativa), Karafs (Celery), Salikhah (Cassia lignea), Irsa (Iris ensata), Satawar (Asparagus racemosus) and Fennel (Foeniculum vulgare) are commonly used. These herbs are known for their dissolving, obstruction-clearing, and menstrual-stimulating properties.

On the other hand, mild diuretics with a cooling effect—such as Cucumber, pumpkin, *Khubbazi (Malva sylvestris)*, *Baqla (Vicia feballin)*, and *Kakenj (Physalis alkekengi)* are particularly helpful for soothing and moisturizing. They are beneficial in easing symptoms related to lower urinary tract issues, such as painful urination.^{20,21}

Depictions in *Pompeii paintings* and *Pliny the Elder's writings* (23-79 AD) confirm that Ancient Civilizations recognized the Diuretic Properties of Olives, Grapes, and Ivy. ²²

Historical Records of Diuretic Plants through Joseph Plenick's 1788 treatise listed hundreds of plants, including 115 with diuretic properties like Garlic, Chinese lantern, Saffron, Fennel, Liquorice, Sassafras and Dandelion (Taraxacum officinale).²³ Dandelion's unique leaf shape earned it the French name "dent de lion" (tooth of lion). The French nickname "pissenlit" (piss in bed) hints at its effectiveness.^{24,25} Its diuretic properties are attributed to Potash (Potassium carbonate, K2CO3)²⁶

In the late 18th century, a "cider mixture" combining cider, juniper, mustard seed, ginger, horseradish, and parsley-root was used to treat Dropsy (edema). Digitalis was discovered as a diuretic in 1775, but its inconsistent effectiveness, toxicity and potential fatal side effects led to its temporary abandonment. By the mid-19th century, Digitalis' cardiac stimulant and diuretic properties were recognised, Distinctions between cardiac and renal dropsy emerged. A new era of diuretic development began when the early 20th century witnessed the understanding of the kidney's role in fluid overload and diuretic function, and also the elucidation of the kidney's role in managing fluid and ions. These discoveries paved the way for modern diuretic treatments.⁸

Mudirr-i-Bawl

In Unani medicine, diuresis (*Idrār-i-Bawl*) is a therapeutic process that increases urine formation and excretion to treat various health conditions. This process facilitates the removal of harmful substances from the body through urine, aiding in the evacuation of morbid matter and management of bodily ailments. Diuresis can be induced through natural methods such as exposure to cold and increased fluid intake, including drinking cold water. Additionally, certain drugs classified as Diuretics (*Mudirr-i-Bawl*) in classical Unani literature can also stimulate diuresis. By promoting diuresis, Unani practitioners aim to restore balance and maintain overall health and well-being.²⁷

Objectives of Diuresis

- Waste Removal: To eliminate waste products and excess bodily fluids through urine.
- Blood Purification: To cleanse the blood by flushing out harmful humors.
- Organ Health: To support the health of vital organs, including the heart, kidneys, and liver.
- Treatment of Specific Conditions: To aid in managing pulmonary diseases, high blood pressure, and kidney-related disorders.

CLASSIFICATION OF DIURETICS

A. Depending on the Nature of the process of Diuresis

- 1. Mudirrat Bol Muharrika: Drugs while passing through the kidneys locally stimulate the renal tissues by increasing blood flow and promotes urine production such as Zaraarih, Shora Kalmi, Jawakhar, Kabab chini etc.
- 2. Mudirrat Bol Mubarida: This type of medicine works by increasing the water content of blood and leads to urine production for example water, watermelon juice, etc.

B. According To Kaifiyat of Diuretics

- 1. Mudirrat i Hārra Karafs, pudina, Ajwain Desi, Persiavashan, Qust, Tukhm Sudab, Shauniz, Anisun, Zufa khushk, Brinjasif, Badiyan etc.
- 2. Mudirrat i Barida: Shora Qalmi, Aab e khayar, Tukhm e Khayarin, Tukhm e Khurfa, Tukhm e Kasni, Aab e Kaddu, Aab e Tarbooz, Aash e Jau, Sikanjabeen etc.,

3. Mudirrat i Mu'tadila: Mudirrat-i-Ḥārra and Barida are mixed together. 28

INDICATIONS FOR DIURESIS

- Post-Venesection or Purgation: To eliminate any remaining waste in the body following bloodletting or purging.
- Cardiovascular and Lung Conditions: To assist in the treatment of heart and lung diseases.
- Digestive and Blood Disorders: Beneficial for issues like indigestion and various blood-related disorders.
- Ascites: To reduce excess fluid accumulation in the abdomen.
- Pleurisy: To support treatment of inflammation in the lung's lining.
- Paralysis and Arthritis: To relieve symptoms associated with muscle or joint conditions.
- **Hepatitis:** To support liver health and function.
- **Hypertension:** To help lower high blood pressure.
- Kidney and Bladder Stones: Useful for treating renal and vesical calculi.
- Quruh wa Busoor e Mathāna, Gurda: Applied in traditional treatment of bladder and kidney sores or ulcers.
- Gonorrhea: To help manage symptoms associated with this infection.
- Glaucoma: To assist in reducing intraocular pressure.
- Diabetes Insipidus: To aid in managing fluid balance in cases of this condition.²⁹

CONTRAINDICATIONS OF DIURETICS

A. Absolute Contraindications

- 1. Hypovolemia (low blood volume)
- 2. Dehydration
- 3. Electrolyte imbalance (Hypokalemia, Hyponatremia)
- 4. Severe Renal impairment

B. Relative Contraindications

- 1. Pregnancy (especially during first trimester)
- 2. Breastfeeding
- 3. Liver disease with severe jaundice
- 4. Hypertrophic cardiomyopathy
- 5. Concomitant use of certain medications (eg- NSAIDs, ACE inhibitors) 30,31

METABOLIC COMPLICATIONS OF DIURETICS

- **Hypokalemia:** Low potassium levels, often seen with certain diuretics.
- Hypomagnesemia: Low magnesium levels.
- Metabolic Acidosis: Lowered blood pH when using potassium-sparing diuretics that retains potassium.
- Hyponatremia: Low sodium levels in the blood.
- **Hyperkalemia:** Elevated potassium levels, particularly with potassium-sparing diuretics.
- Volume Depletion: Excessive fluid loss leading to dehydration.
- Metabolic Alkalosis: Increased blood pH due to bicarbonate retention.
- Hyperuricemia: Elevated uric acid levels, which can lead to gout.

• Increased Urea and Creatinine: Markers of kidney function that may rise with diuretic use. 31,32

ABNORMALITIES RELATED TO MICTURITION

1. URINARY INCONTINENCE (Salas-al-Bawl)

Urinary incontinence is defined as any unintentional or involuntary leakage of urine.

Etiology

According to 'Alī ibn' Abbās Majūsī, Raban Ṭabarī, Ismā 'īl Jurjānī causes of Urinary incontinence are

- Weakness in Bladder Muscles or Ligaments: Reduced strength or laxity in the muscular layer or supporting ligaments of the bladder.
- **Du'f-i-Quwwat e Māsika** (Weak Retentive Power): Accumulation of morbid matter in the bladder can impair its ability to retain urine effectively.³³
- Abnormal cold temperament: (Sū '-i-Mizāj Bārid)
- · Alcohol, Diuretics, and Excessive Fluid Intake: These increase urine production and may contribute to incontinence.
- Bladder Weakness (*pu'f-i-Mathāna*): Reduced bladder strength affects urine retention.³⁴
- Excessive Heat in the Bladder (Hiddate Mathāna): Increased heat in the bladder can disrupt normal urinary function.³⁵
- Physical Injury or Structural Issues: Dislocation of vertebrae, injury to bladder muscles, or conditions in nearby structures (like uterine inflammation, omphalitis, constipation, and pregnancy) can lead to incontinence.³⁶
- Ajmal Khan's Observations: Bladder stones, inflammation, diabetes, prolapse, worm infestation in children, indigestion, general weakness, paralysis, old age, and spinal cord injuries are also noted causes of urinary incontinence.³⁷

TREATMENT

Regimenal therapy ('Ilāj bi'l Tadbīr)

- Dry cupping
- Local application of Zimad Zaft A medicinal paste applied for inward vertebral dislocation caused by trauma; if the dislocation is outward, manipulation techniques are used instead.
- No Treatment for Torn Ligaments Incontinence caused by torn bladder ligaments is considered untreatable in traditional Unani medicine.³⁸

Single drug Therapy (Ilāj bi'l Mufradāt)

Oral Remedies: Taking powdered *Ruta graveolens* (*Suddab*), *Nardostachys jatamansi* root (Sumbul tib), or *Apium graveolens* seeds (*Tukhme Karafs*), as well as extracts of *Kali Tu*lsi, can be beneficial for managing urinary incontinence.

Watermelon Peel Application: Applying dried and pounded watermelon peel locally is believed to help reduce symptoms of urinary incontinence.

Simā'q Application: Applying a fine powder of $sim\bar{a}'q$, on the genital area from the suprapubic region to the umbilicus can aid in controlling urinary leakage.³⁹

Compound Formulations

- 1. For Weak Bladder (Du'f-i-Mathāna)
 - Formulations such as Majūn Kundur, Majūn Rasheedin, Majūn Jaweedi, or Masikulbawl Ḥārr can help strengthen bladder function.
- 2. For Cold Temperament of the Bladder (Galbae Burūdat Mathāna)
 - O Apply warm Rosa damascena oil (Ravghan Gul) locally.
 - Matricaria chamomile oil (Ravghan Baboona) and Ravghan Nargis can be applied to the suprapubic area for additional warmth
 and support.

3. For Excess Heat in the Bladder (Galbae Ḥārarat Mathāna)

A paste of *Gile Armani*, *Santalum album* (sandalwood), *Acacia arabica* pod extract (aqaqia) mixed with *Aa'b simaq* applied to the pelvic and lower back areas can help cool and soothe.

4. Additional Remedies Mentioned by Razi

Qurs Tabasheer is recommended for reducing involuntary urine loss.

5. Age-Specific Remedies:

- O For Children: Ravdri and ghaz taken orally can help control involuntary urination.
- O For Young Adults and Elderly:
 - Kushtae Baize Murgh (1 tab) with Majūn Falasafa (7g), or Kushtae Qurs Faulad, and Kushtae Zamarud (1 tab) with Jawārish Zarooni (7g) are beneficial.
 - For older adults, a powdered mixture of Sesamum indicum seeds (kunjad siyah) and Carum copticumseeds (ajwain), in equal parts with desi qand siyah (sugar of equal amount to both seeds), is effective.

6. Other Useful Formulations

- Jawārish Zarooni (7-9g) with 'Araq Badiyan (120g).
- Majūn Juft Baloot (6–10g), Majūn Qust (6–10g), or Majūn Khubsul Hadeed (7-9g).
- Jawārish Mastagi (9g) with 'Araq Badiyan (120g).
- Majūn Kalkalanaj combined with 'Araq Saunf (80g).
- Safūf Masikul Bawl: A powdered formulation specifically for urinary retention.³⁸

2. NOCTURNAL MICTURITION / ENURESIS / BEDWETTING / BAWL FI'L FARĀSH

Nocturnal micturition is the involuntary voiding of urine during night. It occurs due to the absence of voluntary control of micturition. It is a common and normal process in infants and children below 3 years. It is because of incomplete myelination of motor nerve fibers of the bladder. When myelination is complete, voluntary control of micturition develops and bedwetting stops. If nocturnal micturition occurs after 3 years of age it is considered abnormal. It occurs due to neurological disorders like Lumbosacral vertebral defects. It can also occur due to psychological factors. Loss of voluntary control of micturition occurs even during the impairment of motor area of cerebral cortex.

Other Causes Of Nocturnal Enuresis

- Anxiety
- Hyperactivity disorder
- 5 genetic variants at chromosome bq 16.2 and 13q22
- Overactive bladder
- Urinary tract infection
- Antidiuretic hormone deficiency
- Diabetes
- Small bladder
- Constipation⁴⁰

In the Unani system of medicine, Bawl fi'l Farāsh is a subtype of Salas-al-Bawl, where a reduction in bladder muscle tone due to excessive coldness (Burūdat) leads to muscle laxity (Istirkhā'-e-Aḍala Mathāna), causing bed-wetting and sometimes daytime incontinence.³⁵ According to Allama Mohammad Hasan Qarshi, Bawl fi'l Farāsh is characterized by involuntary urination during sleep and occasionally during the day. Qarshi identified possible causes as genetic factors, kidney stones, cystitis, and high urinary alkalinity. He noted that it commonly affects children with anterior pituitary gland issues or those with sensitive lumbar vertebrae.⁴¹

In Akseer-e-Azam, Hakim Mohammad Azam Khan outlined treatments for Bawl fi'l Farāsh, recommending powdered remedies like Saad Kofi, Kundur, Khulanjan, Juft Baloot, Habbul Aas, and Gulnaar. He also highlighted the effectiveness of Majūn Masikul-Bawl and Majūn Falasfa for managing the condition. For cases linked to excessive coldness, especially in children and the elderly, he suggested warming treatments like Sharab-e-Raihani, Hilteet, Zafran, Baloot, Murmakki, Kundur, and a local application of Ravghan-e-Nardeen.⁴²

CONCLUSION

In conclusion, this paper provides a deep insight on Diuresis (*Idrār-i-Bawl*) in the context of Unani medicine, drawing from classical texts and modern digital databases. This article highlights the significance of Diuresis in eliminating morbid matter from the body through increased urine production. By

examining the history, classification of diuretics, indications, contraindications, complications, and abnormalities related to micturition and their treatment, this review demonstrates the relevance and continued applicability of classical Unani knowledge in contemporary medical practice. Furthermore, the integration of traditional wisdom with modern research underscores the importance of interdisciplinary approaches in understanding and managing various bodily ailments. This paper serves as an important article for researchers and practitioners seeking to bridge the gap between traditional and modern medical knowledge, ultimately contributing to the development of more holistic and effective treatment strategies.

Source of Funding

None

Conflict of Interest

Authors have no conflict of interest

Acknowledgement

I am thankful to my coauthors for their support. I acknowledged those whose papers, articles, and books are cited in this paper.

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