ISSN: 2977-0033

Review Article

Journal of Clinical Research and Case Studies

Common Salt (NaCl) as Humanity's Founding Drug: An Interdisciplinary Argument

David Bloch

SALT ARCHIVE, MR Bloch, 198 BenYehuda Str, 6347215, Israel

Corresponding author

David Bloch, SALT ARCHIVE, MR Bloch, 198 BenYehuda Str, 6347215, Israel.

Received: October 05, 2026; **Accepted:** October 13, 2026; **Published:** October 21, 2026

ABSTRACT

This paper argues that common salt (sodium chloride, NaCl) is humanity's first and founding drug: the earliest consistently applied medicinal substance that produced physiological effects beyond basic nutrition, was recognized across multiple civilizations, and reshaped economic, social, and technological development. Synthesizing archaeological evidence of prehistoric salt exploitation, philological readings of ancient medical corpora, and modern biomedical insights into electrolyte physiology, we show that salt meets a rigorous definition of "drug" and predates organized pharmacology. Salt's roles include antimicrobial wound care, dehydration therapy via saline solutions, softening and dissolving pathological masses, modulation of fluid balance, and specialized processing in Traditional Chinese Medicine (TCM). Its ubiquity in early pharmacopeias (Egyptian, Greek, Roman, Chinese), the depth of prehistoric mining and trade networks, and the continuity of clinical practice into modern medicine (sterile isotonic/hypertonic saline) collectively support salt's status as the first drug medicine employed by humankind [1-4,7-9,11,12].

Keywords: Salt, Sodium Chloride, Founding Drug, Traditional Medicine, Pharmacology, Archaeology, TCM, Wound Care, Saline Therapy, Natron

Introduction

What Counts as a "Drug"?

A drug is any substance administered to produce a physiological effect beyond mere nutrition. Salt fits this definition: sodium ions are essential for nerve impulse conduction, muscle contraction, and fluid homeostasis, and therapeutic administration alters clinical states (e.g., restoring volume and electrolyte balance, drawing fluid osmotically, inhibiting microbial growth) [1,2]. The historical record shows salt was deliberately applied to wounds, ingested in medicinal recipes, and used in baths and poultices -interventions designed to modify disease states, not simply flavor food [7-9,11]. Archaeological data further demonstrate salt's selective extraction and long-distance trade, marking it as a specialized resource aligned with health, preservation, and ritual functions [1,3,4].

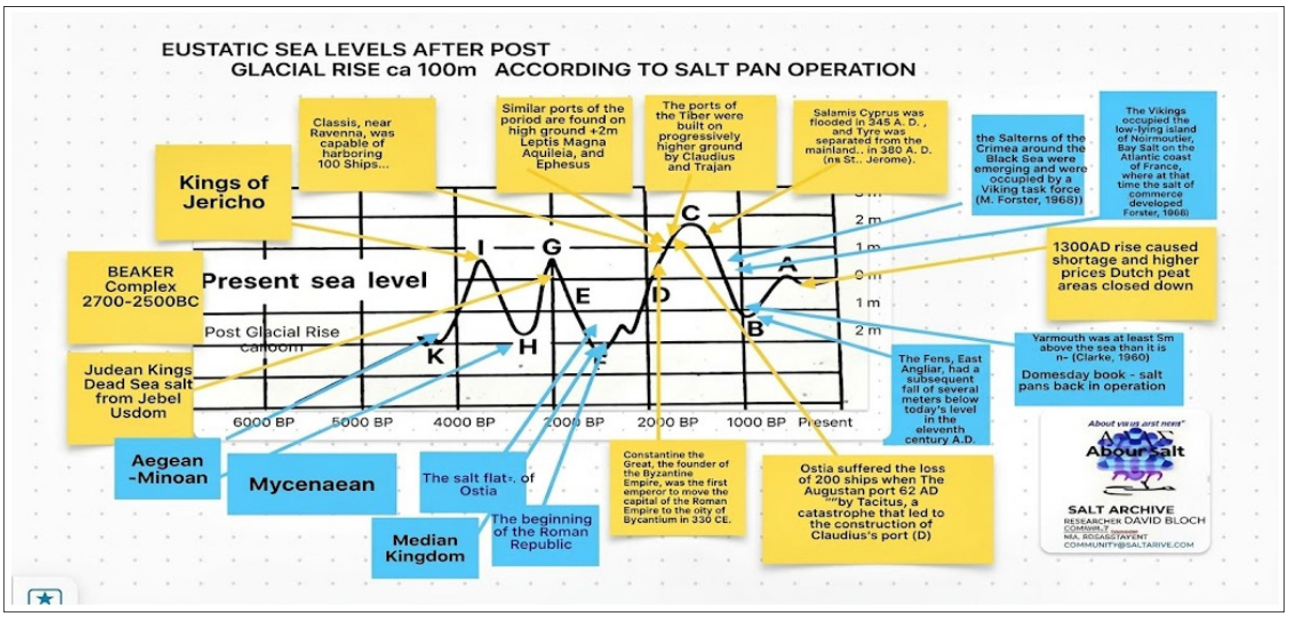
Thesis: Salt is humanity's founding drug because it (i) produces targeted physiological change; (ii) appears as a medicinal agent in the earliest medical texts across civilizations; (iii) is supported by prehistoric and ancient economic infrastructures dedicated to its production; and (iv) remains core to evidence-based clinical practice today [1-4,10].

Prehistory and Early Exploitation: The Archaeology of Salt

Archaeological studies trace organized salt production to the Neolithic and early Bronze Age, with Poiana Slatinei (Romania) documenting salt extraction circa 6000 BCE, and Hallstatt (Austria) evidencing deep mining in the Alps by the Bronze and Iron Ages [3,4]. Sites like Solnitsata (Bulgaria) and the Red Hills of Essex (England) reveal diverse technologies-solar evaporation, briquetage (ceramic salt cakes), and ingenious trough systems for brine processing - signaling salt's industrial-scale significance for health and food systems well beyond local subsistence [3,4]. Scholarly syntheses emphasize salt's biological necessity for humans and domesticated animals, implying systematic pursuit wherever local supply was lacking, and consequently trade networks and political control over salt sources [4, 5]. Archaeology demonstrates that at critical periods of eustatic sea level fluctuation, coastal production of the bulk quantities needed, were seriously missing from the market.

This prehistoric infrastructure matters for pharmacology: the sustained, specialized efforts to obtain salt reflect recognition of its functional power - preserving food against putrefaction (indirectly preventing disease) and supporting materia medica for wound care and systemic ailments [1,5]. The continuity from prehistory to antiquity underscores salt's longstanding medicinal identity, not merely culinary utility [1,4].

Citation: David Bloch. Common Salt (NaCl) as Humanity's Founding Drug: An Interdisciplinary Argument. J Clin Res Case Stud. 2026. 4(4): 1-4. DOI: doi.org/10.61440/JCRCS.2026.v4.103



Egypt: Natron, Wound Care, and Pharmacologic Insight

Not all drugs are medicine - however all medicines are drugs and Ancient Egyptian texts put common salt centrally in medicine. The Edwin Smith Papyrus (~1600 BCE) describes topical applications for infected wounds, leveraging natron (a sodium carbonate/bicarbonate mixture) and salt's desiccating properties to dry, cleanse, and prevent decay [7,8]. The Ebers Papyrus (~1550 BCE) records hundreds of prescriptions where salt appears in suppositories, ointments, eye washes, and hemostatic formulations, explicitly addressing infection, bleeding, and childbirth-related conditions [7,9]. Scholarly work on Egyptian sodium salts confirms Wadi Natrun as a principal source and demonstrates effective prescription replication, validating the astringent and cleansing qualities observed clinically [14]. Modern physiology clarifies this empirical logic. Hypertonic salt environments inhibit microbial growth and draw fluid from edematous tissue; conversely, sterile isotonic saline (0.9% NaCl) irrigates wounds safely, removes debris, and preserves cellular integrity - continuities bridging ancient practice and modern standards [10,8]. The pairing of Egyptian textual evidence and contemporary biomedical mechanism supports salt's classification as a drug used to alter pathological states, not only as a preservative [7-10,14].

Greece and Rome: Baths, Poultices, and the Classical Materia Medica

Hippocratic medicine documents salt's application in respiratory and digestive conditions, skin disease, and expectorant therapies. Greek and Roman clinicians used saltwater baths for rheumatism and inflammation and salt-based poultices for swelling and wound cleansing [7,10]. Pliny the Elder reports medicinal salt from Tarentum and enumerates remedies that soothe postpartum abdominal pain, treat livestock wounds, and even cosmetic uses like skin wrinkling reduction - reflecting salt's cross-species and multi-indication role in the classical pharmacopeia [12, 1]. Economically, Rome's Via Salaria and broader salt roads institutionalized supply, while contested etymologies linking salarium to salt pay or perhaps to secure supply- though debated - signal salt's perceived value within imperial structures [1]. The embedding of salt in civic baths, domestic treatments, and agrarian medicine demonstrates production-to-patient continuity characteristic of a foundational drug in ancient healthcare systems [7,12,1].

China: Salt as Flavor, and a channeling Processing Agent (TCM)

In Traditional Chinese Medicine, salt is one of the five flavors, classically aligned with the Kidney meridian, and is credited with clearing heat, eliminating toxins, softening hardness, and dissolving masses [46, 50, 55]. The Peng Tzao Kan Mu (traditionally dated to ancient times) catalogues 40+ salt varieties, their properties, and extraction methods, while dynastic policies institutionalized salt monopolies and taxation, reflecting salt's medical, culinary, and fiscal centrality. TCM sources and modern reviews describe salt-processing (鹽炙, yán zhì) - a pharmaceutic technique used to alter taste, property, and meridian entry, especially to guide drugs to the Kidney channel, reduce toxicity, and enhance efficacy. Systematic analyses show measurable changes in chemical composition and pharmacodynamics after salt-processing, bolstering clinical claims about improved Kidney-related indications and Yin-nourishing actions [47, 48]. Moreover, mineral medicines (e.g., Mang Xiao, mirabilite / sodium sulfate) function as purgatives for heat-constipation and as anti-inflammatory topical agents for throat, oral, and ocular conditions - demonstrating how related salts widened TCM's pharmacologic repertoire. Historically, Chinese medical literature also documents salt restriction for edematous disease management, evidencing early appreciation of sodium's role in fluid dynamics and its modulation for therapeutic ends - a remarkable anticipation of modern low-sodium protocols in nephrology and cardiology. Together, these records show salt in China served as drug, excipient, and processing catalyst, deeply integrated in theory, clinical practice, and state policy.

Mechanisms: From Antimicrobial Action to Electrolyte Therapy

Salt's pharmacology rests on osmotic and electrolyte principles:

- **Antimicrobial/Osmotic Effects:** Hypertonic salt environments dehydrate bacteria, suppress growth, and draw exudate from wounds; hence historical saline dressings and modern hypertonic saline in controlled debridement practices [10,8].

- **Isotonic Saline Irrigation (0.9% NaCl):** Clinically standard for wound cleansing, maintaining cell viability, and preventing irritation-precisely calibrated to physiologic osmolarity [10].
- **Systemic Electrolyte Regulation:** Sodium's role in action potentials, muscle contraction, and blood pressure underscores salt's capacity to alter physiological states when dosed medically (e.g., rehydration, managing hyponatremia), distinguishing drug-like effects from nutrition [1,2].
- **Psychophysiological Dimension:** Salt craving in deficiency states reflects homeostatic drives, with noticeable behavioral modulation - a hallmark of substances that influence both body and brain [1].

These mechanisms parallel ancient empirical observations (drying, cleansing, restoring vigor) and modern controlled saline therapies, providing a mechanistic bridge that validates salt's continuous medicinal identity [7-10].

Economic and Cultural Embedding: Medicine, Monopolies, and Civilization

Salt's medicinal reputation propelled its strategic control by states. China's salt monopoly and tax structures became second only to land tax, shaping debates over public revenue, private enterprise, and social equity - evidence of salt's indispensability to population health and governance. In the Mediterranean world and beyond, salt roads and trade linked resource geographies to urban growth and medical provisioning; cultural texts and religious practices cast salt as purifying and life-giving, reinforcing its therapeutic symbolism [1,9,11].

From prehistory to empires, salt was medicine-infrastructure: clinics, baths, recipes, and state revenue coalesced around its production and distribution. This entanglement is unusual for a single substance and combined with its cross-civilizational textual presence marks salt uniquely as a foundational drug in human society [1, 4].

Counterarguments and Clarifications

"Salt is food, not a drug."

Salt's nutritive status does not preclude drug identity. Many substances (e.g., vitamins, minerals) are essential nutrients and therapeutic agents when administered to produce targeted physiological effects (e.g., correcting deficiency, modulating fluid balance). The consistent intentional medicinal use of salt in ancient prescriptions and modern clinical saline (irrigation, hypertonic therapy) qualifies salt squarely as a drug under standard definitions [7-10,1].

"Direct table salt on open wounds is harmful."

Unsterile dry salt may cause tissue damage via hypertonicity and contamination. Ancient practices varied; modern standards prefer sterile isotonic saline for wound irrigation and controlled hypertonic applications for specific indications. The evolution from empirical salt use to precise saline formulations reflects medical refinement, not the negation of salt's medicinal status [10,8].

Conclusion: Common Salt as the First Drug

Salt's multi-millennial record of intentional, cross-cultural medical application; its physiological potency; its state-level regulation; and its continuity into modern clinical protocols together justify naming common salt as humanity's founding drug. Long before synthetic pharmaceutics, salt bridged sustenance and therapy, ritual and clinic, mine and hospital. The evidence from Egyptian papyri, classical texts, TCM corpora, and prehistoric archaeology converges on a simple truth: in the beginning, medicine tasted like salt [7-12,4].

From Ancient Salt to Modern Saline it could also be argued that it has been - The Most Ubiquitous Drug?

The continuity from prehistoric salt applications to today's sterile saline solutions underscores salt's unique position in medical history. Ancient healers used salt empirically for wound cleansing, infection control, and fluid regulation—principles that remain foundational in modern medicine. Today, isotonic saline (0.9% NaCl) is among the most commonly administered intravenous fluids worldwide, essential for hydration, electrolyte balance, and drug delivery. Hypertonic saline is employed in neurology, pulmonology, and wound care, while saline irrigation is standard in surgery and emergency medicine. No other single compound—natural or synthetic—matches salt's global ubiquity, clinical versatility, and historical depth. From Neolithic briquetage to hospital IV bags, salt has evolved from a survival necessity to a cornerstone of evidence-based care, making a compelling case that common salt is not only humanity's first drug but arguably its most enduring and most widely used medicinal substance.

References

1. History of Salt (Wikipedia overview). Cultural, economic, and infrastructural roles; salt roads and early trade. https://en.wikipedia.org/wiki/History_of_salt
2. Círillo M, Capasso G, Di Leo AV, De Santo NG. A History of Salt. Am J Nephrol. 1994. 14: 426-431.
3. How Ancient Salt Mining Transformed Prehistoric Europe. site overview incl. Poiana Slatinei. Solnitsata. Hallstatt. (Video synopsis of current archaeology). https://www.youtube.com/watch?v=YfsvuO0OZZw
4. Anthony Harding. The prehistoric exploitation of salt in Europe. Geo log i cal Quar terly. 2014. 58: 591-596.
5. Harding A. Salt exploitation in the later prehistory of the Carpathian Basin. Documenta Praehistorica. 42: 211-217.
6. Wormer EJ. Blood, Sweat, and Tears – Salt in Medical History. Egyptian papyri, topical antisepsis, laxatives. https://www.researchgate.net/publication/288511713_Blood_Sweat_and_Tears_-_Salt_in_Medical_history
7. History of Wound Care (Wikipedia). Egyptian wound management; antisepsis; honey and salt-related practices. https://en.wikipedia.org/wiki/History_of_wound_care
8. Himalayan Salt Company. Salt in the History of Medicine. (popular synthesis citing ancient texts). Egyptian and Greek uses; topical applications. https://himalayansaltusa.com/salt-in-the-history-of-medicine.html
9. Is Salt Good for Wounds? What the Science Says. Biology Insights (2025). Modern saline irrigation; isotonic vs. hypertonic mechanisms. https://biologyinsights.com/is-salt-good-for-wounds-what-the-science-says/
10. Sean Mowbray. Salt Played a Pivotal Role in Ancient Human History. Discover Magazine. 2024. Pliny's notes. medical and preservative uses. https://www.discovermagazine.com/salt-played-a-pivotal-role-in-ancient-human-history-46196

11. Salt in Chinese History (Wikipedia). Monopolies, taxation, state revenue; cultural centrality. https://en.wikipedia.org/wiki/Salt_in_Chinese_History
12. Melanie Sapsford. The use of sodium salt deposits in medical and medically associated industries in Ancient Egypt. PhD, Cranfield University (2009). Natron sources; prescription replication showing efficacy. https://dspace.lib.cranfield.ac.uk/.../content

Copyright: © 2026 David Bloch. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.