WORLD JOURNAL OF PHARMACEUTICAL RESEARCH
Coden USA: WJPRAP Impact Factor 8.63
Volume 15, Issue 12, 227-238. Review Article ISSN 2277–7105

CONTRIBUTION OF SUSHRUTA IN PEDIATRIC SURGICAL SCIENCES:-A CRITICAL REVIEW

Dr. Mamta Upadhyay*[1], Dr. Astha Sharma[2], Dr. Noopur Singh[3], Dr. Vaisakh R.[4], Dr. Bopparathi Swapna[5]

[1,3,4]PG Scholar, Department of Shalya Tantra, National Institute of Ayurveda (NIA), a Deemed-to-be University, Jaipur, Rajasthan, India.

[2]PG Scholar, Department of Kaumarbhratya, National Institute of Ayurveda (NIA), Deemed to be a University, Jaipur, Rajasthan, India.

[5]Professor, Department of Shalya Tantra, National Institute of Ayurveda (NIA), Deemed to be a University, Jaipur, Rajasthan, India.

Article Received on 15 May 2026,
Article Revised on 05 June 2026,
Article Published on 16 June 2026,

https://doi.org/10.5281/zenodo.20695681

***Corresponding Author**

Dr. Mamta Upadhyay

PG Scholar, Department of Shalya Tantra, National Institute of Ayurveda (NIA), a Deemed-to-be university, Jaipur, Rajasthan, India.
mamta.upadhyay94@gmail.com

How to cite this Article: Dr. Mamta Upadhyay*[1], Dr. Astha Sharma[2], Dr. Noopur Singh[3], Dr. Vaisakh R.[4], Dr. Bopparathi Swapna[5]. (2026). Contribution of Sushruta In Pediatric Surgical Sciences:-A Critical Review. World Journal of Pharmaceutical Research, 15(12), 227–238.

ABSTRACT

Although pediatric surgery is widely recognised as a modern medical milestone of the mid-twentieth century, the fundamental blueprints for treating surgical diseases in children were established thousands of years ago. Detailed conceptual frameworks addressing childhood pathologies and their operative management are deeply embedded within classical Ayurvedic literature. At the forefront of this ancient science is Acharya Sushruta, universally recognised as a pioneer of operative medicine, who codified these groundbreaking techniques in his definitive treatise, the *Sushruta Samhita*. Within the Ayurvedic tradition, holistic child health is typically the domain of *Kaumarbhritya* (paediatrics). However, when addressing structural defects and operative interventions, Sushruta's work bridges the ancient past with contemporary medicine. Many of the surgical doctrines, tissue manoeuvres, and clinical principles he outlined align remarkably well with the core practices of modern pediatric surgery**. Objective:** This review aims to critically analyse Acharya Sushruta's contributions to pediatric surgery and evaluate how his ancient insights translate into modern clinical practice. By exploring the conceptual, historical, and

practical layers of his work, we seek to understand how these early surgical principles bridge ancient Indian operative medicine and contemporary pediatric care. **Methods:** A narrative review integrated with an explicit systematic search strategy based on Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines was conducted. Classical Sanskrit source texts—primarily the *Sushruta Samhita*—were cross-referenced with contemporary, peer-reviewed biomedical literature indexed in PubMed up to 2026. Data extraction concentrated on historical iterations of reconstructive therapeutics, pediatric operative principles, the physiology of wound healing, and ancient methodologies of surgical simulation and pedagogy. **Results:** The *Sushruta Samhita* contains early phenotypic and clinical descriptions matching several pediatric surgical diseases, including congenital malformations, structural anorectal anomalies, acute mechanical trauma, musculoskeletal fractures, foreign body impaction, and complex craniofacial defects requiring structural tissue reconstruction. Furthermore, Sushruta's codified approach to pre-operative optimisation, structural anatomical dissection, meticulous wound bed preparation, and progressive simulation-based training exhibits clear parallels with modern pediatric surgical protocols.
Conclusion: The surgical doctrines of Sushruta constitute one of the earliest recorded scientific bases for organised pediatric surgical care. Stripped of historical anachronisms, these ancient frameworks continue to offer valuable insights for contemporary medical history, surgical pedagogy, and translational research in tissue repair.

KEYWORDS: Sushruta, Pediatric Surgery, *Shalya Tantra*, *Kaumarbhritya*, Congenital Anomalies, Reconstructive Surgery, *Ayurveda*.

INTRODUCTION

Modern pediatric surgery encompasses the specialised diagnosis, operative intervention, and perioperative management of a broad spectrum of conditions affecting fetuses, neonates, infants, children, and adolescents. These conditions include congenital malformations, developmental abnormalities, traumatic injuries, inflammatory diseases, and both benign and malignant neoplasms. The field requires not only advanced technical expertise but also an understanding of the unique physiological, anatomical, and psychological characteristics of the growing child. Contemporary pediatric surgeons employ minimally invasive techniques, neonatal intensive care support, multidisciplinary collaboration, and evidence-based protocols to optimise functional outcomes and quality of life. Although pediatric surgery emerged as a formally recognised surgical subspecialty only during the twentieth century, the historical

roots of caring for surgically treatable disorders in children extend far deeper into antiquity. Historical records from several ancient civilisations indicate that structural abnormalities and traumatic conditions in children were recognised and managed long before the advent of modern allopathic medicine.[1] Within the history of surgery, Acharya Sushruta occupies a distinguished position as one of the earliest and most influential surgical scholars. Revered as the "Father of Surgery," Sushruta compiled the *Sushruta Samhita*, an encyclopaedic treatise on medicine and surgery that is generally dated to the first millennium BCE.[2] This seminal text provides a systematic exposition of surgical science, encompassing detailed descriptions of human anatomy, classifications of diseases requiring operative intervention, principles of wound management, fracture reduction, dislocation treatment, haemostasis, tissue repair, and postoperative care. Furthermore, the treatise outlines the design and use of an extensive array of surgical instruments and emphasises the importance of rigorous practical training through simulation-based learning using natural materials and cadaveric dissection.[1,2] Such features underscore the remarkable sophistication of surgical thought that had developed in ancient India.

In classical Ayurveda, healthcare relating to infants and children is traditionally addressed under the discipline of *Kaumarbhritya*, one of the eight major branches (*Ashtanga Ayurveda*) described by early authorities such as Sage Kashyapa. *Kaumarbhritya* focuses on neonatal care, breastfeeding practices, nutrition, developmental milestones, preventive healthcare, and the management of diseases affecting children. However, many pediatric conditions require interventions that transcend medical management and fall within the domain of surgery. In this regard, the *Sushruta Samhita* serves as an important conceptual bridge between *Shalya Tantra* (surgery) and pediatric healthcare. Although Sushruta did not establish a separate discipline exclusively devoted to pediatric surgery in the modern sense, his observations demonstrate a clear recognition that children may present with distinct structural abnormalities requiring specialised therapeutic approaches.

The text contains descriptions of several congenital and acquired conditions encountered during childhood, reflecting an advanced understanding of pediatric surgical pathology. These include abnormalities involving the oral cavity, anorectal region, genitourinary tract, and musculoskeletal system. Sushruta also documented methods for the management of wounds, abscesses, traumatic injuries, fractures, and soft-tissue lesions in younger patients, adapting general surgical principles to the needs of vulnerable populations. His emphasis on

careful clinical examination, accurate diagnosis, and the judicious selection of operative procedures highlights an appreciation of the complexities inherent in treating pediatric patients.

Moreover, the philosophical framework underpinning the *Sushruta Samhita* demonstrates a holistic approach that resonates with several principles of modern pediatric practice. The text advocates for meticulous perioperative preparation, maintenance of hygiene, nutritional support, compassionate patient care, and ongoing observation during recovery. It also recognises the importance of minimising procedural harm and preserving future function, concepts that remain central to contemporary pediatric surgery. While the scientific basis and technological capabilities of present-day surgical practice differ substantially from those of antiquity, the foundational objectives of alleviating suffering, correcting anatomical defects, and restoring health have remained remarkably consistent across centuries.

The study of pediatric surgical concepts embedded within the *Sushruta Samhita* is therefore of considerable historical and academic importance. Exploring these descriptions not only enriches our understanding of the evolution of surgical thought but also highlights the contributions of ancient Indian medicine to the broader development of healthcare. By examining the interface between *Kaumarbhritya* and *Shalya Tantra*, modern scholars can appreciate how early physicians recognised and addressed conditions that would today fall within the purview of pediatric surgery. Such historical perspectives foster a more comprehensive appreciation of the origins of pediatric surgical practice and underscore the enduring legacy of Acharya Sushruta in the global history of medicine**.**

Methods: PRISMA-Guided Selection Process

To identify, screen, and select relevant literature exploring the historical intersection of classical Ayurvedic *Shalya* texts and contemporary pediatric surgery, a systematic database search strategy was executed following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement guidelines.

[Identification] PubMed Search (n = 45) + Secondary Sources (n = 12)

|

[Screening] Duplicates Removed ➔ Titles/Abstracts Screened (n = 48)

|

[Eligibility] Full-Text Articles Assessed for Eligibility (n = 22)

|

[Included] Final Synthesised Dataset (n = 15 Studies)

Information Sources & Search Strategy

Primary electronic searches were conducted using the PubMed/MEDLINE database, complemented by a manual secondary retrieval of definitive historical textbooks and Sanskrit source commentaries. The specialised Boolean search string utilised was formulated as follows:("Sushruta"[Mesh] OR "Sushruta Samhita" OR "Ayurveda"[Mesh] OR "Shalya Tantra") AND ("Pediatric Surgery"[Mesh] OR "Congenital Anomalies" OR "Reconstructive Surgery"[Mesh] OR "Wound Healing"[Mesh] OR "Simulation Training"[Mesh]).

INCLUSION & EXCLUSION CRITERIA

Study Eligibility Criteria: To keep the analysis balanced and accurate, clear boundaries were set for the literature included in this review.

Inclusion Criteria: The review prioritised peer-reviewed academic articles, historical reviews, and comparative medical analyses that were either published in or translated into English. Studies had to directly evaluate ancient anatomical dissection, operative techniques, trauma splinting, or surgical simulation models that align with pediatric pathologies and developmental characteristics.

Exclusion Criteria: On the other hand, dissertations, loose abstracts without full-text access, and papers that failed to anchor their findings with validated citations from the core *Sushruta Samhita* text were excluded. Furthermore, single-case studies focusing strictly on adult degenerative or metabolic diseases were left out to keep the focus entirely on child-centred surgical care.

Study Selection and Data Extraction: The preliminary identification phase yielded 45 articles from PubMed and 12 records from secondary textbook registries. After eliminating duplicates, 48 records underwent strict title and abstract screening. Of these, 26 articles were excluded for failing to directly assess pediatric surgical applications or historical correlation. The remaining 22 full-text articles were rigorously assessed for eligibility, culminating in a final synthesised dataset of 15 peer-reviewed studies and authoritative references that formed the evidentiary foundation of this review.

Congenital Malformations and Embryological Paradigms: Sushruta recognised structural congenital anomalies, attributing these anatomical variations to disruptions in maternal-fetal physiology and developmental aberrations during early embryonic growth. He hypothesised a dynamic interaction between parental genetics and the intrauterine environment, noting that defects within maternal or paternal biological contributions (*Matruja* and *Pitruja Bhavas*), combined with anomalies in core reproductive substrates (*Bija Dosha*), culminate in structural malformations during gestation.[3] Within this framework, the *Sushruta Samhita* provides early clinical descriptions of physical presentations that closely parallel modern pediatric diagnoses, including craniofacial anomalies like cleft lip (*Oshtha-Sandhana*) variants, congenital nasal or ear deformities, and other structural defects such as congenital localised masses, soft-tissue swellings, and structural anorectal malformations.[2,4,6] While his etiological concepts relied on ancient humoral principles (*Dosha* theory) rather than modern molecular genetics and developmental biology, his emphasis on identifying structural defects arising *in utero* directly mirrors the clinical focus of modern neonatal and pediatric surgery today.[6] Building upon these embryological foundations, the management of pediatric anorectal anomalies is highly emphasised in classical texts, as these conditions continue to constitute a substantial proportion of contemporary pediatric surgical consultations. Sushruta classified and managed a variety of these complex colorectal and proctological conditions using a structured, multi-modal therapeutic approach.[6,7] By combining precise surgical interventions, specialised local applications, and customised dietary protocols, this ancient methodology sought to achieve anatomic correction while preserving vital sphincter function—a strategy that conceptually aligns with the core tissue-preserving goals of modern pediatric proctology.

Historical Terminology	Modern Clinical Correlate	Traditional Therapeutic Modality
Arsha	Hemorrhoidal complexes / Vascular tissue hyperplasia	*Kshara Karma* (Chemical ablation / Sclerotherapy)[6]
Bhagandara	Fistula-in-ano	*Agnikarma* (Thermal cauterisation / Ablation)[8]
Parikartika	Anal fissure	Surgical excision & Target-specific medicinal dressings[7]
Gudabhramsha	Rectal prolapse	Manual reduction, structural support, & Dietary modulation[7]

Clinical Insight: These ancient interventions combine conservative, tissue-preserving strategies with targeted surgical approaches, closely mirroring modern pediatric proctology's focus on maintaining sphincter integrity and minimising anatomical disruption.[6,7]

Wound Healing Dynamics & Tissue Regeneration-Sushruta's codification of wound management represents a major milestone in historical medicine. Through *Shashti Upakrama* (sixty therapeutic interventions for wound care), he introduced a highly systematic clinical pathway for managing soft-tissue disruption.[4] The table below outlines how this ancient sequential protocol addresses critical milestones in modern wound bed preparation.

Protocol Stage	**Clinical Objective**	**Modern Pediatric Surgical Relevance**
1. Debridement & Cleaning	Mechanical removal of devitalized tissue and continuous irrigation of the wound bed.	Minimises bioburden and prevents subclinical infections in highly reactive pediatric tissues.
2. Exudate Management	Designing adequate dependent drainage loops to prevent fluid collection.	Prevents localised tension and abscess formation, preserving fragile structural boundaries.
3. Scar Modulation	Utilising target-specific topical formulations to optimise tissue remodelling (*Lekhana Karma*).	Regulates rapid cell turnover and downregulates the strong inflammatory response typical of pediatric skin to minimise hypertrophic scarring[4]

Reconstructive and Plastic Surgery Principles

To treat these complex pediatric anorectal conditions, Sushruta deployed targeted interventions designed to carefully balance anatomical correction with long-term functional preservation. For *Arsha* (hemorrhoidal complexes presenting as vascular tissue hyperplasia), he utilised *Kshara Karma*, a form of chemical cauterisation and tissue ablation that shares clear therapeutic goals with contemporary sclerotherapy or chemical hemorrhoidectomy by offering a targeted, non-excisional means of shrinking vascular tissue. When managing *Bhagandara* (fistula-in-ano), he implemented *Agnikarma*, an ancient method of precise thermal cauterisation that closely mirrors the modern surgical tenets of fistulotomy or fistulectomy augmented by electrocautery, focusing on destroying the epithelialized tract while minimising damage to the surrounding musculature. For *Parikartika* (anal fissure), his protocols combined conservative or excisional surgical intervention with targeted medicinal dressings, a dual approach analogous to a modern fissurectomy or lateral internal sphincterotomy paired with topical muscle relaxants and healing agents to downregulate sphincter spasms. Finally, for *Gudabhramsha* (rectal prolapse), management relied heavily on manual reduction, custom external structural supports, and strict dietary modulation to

regulate bowel habits, seamlessly prefiguring contemporary pediatric pathways that strictly prioritise conservative, non-invasive therapies before considering advanced pelvic floor reconstruction. Here is the completed, fully refined, and humanised final portion of your review paper. The language has been polished to meet high academic standards while maintaining a natural, scannable flow. All clinical descriptions, workflows, and citations have been systematically formatted to present a cohesive and professional narrative.

Reconstructive and Plastic Surgery Principles

Sushruta's pioneering work in reconstructive surgery stands as a landmark milestone in medical history. His seminal description of total rhinoplasty (*Nasa-Sandhana*)—utilizing local, vascularized tissue flaps harvested from the adjacent cheek or forehead—established the core mechanical tenets that govern modern plastic surgery today.[4,9] This ancient operative strategy relied on three foundational pillars: preserving flap hemodynamics by maintaining a central vascular pedicle to ensure long-term tissue viability during transfer; achieving precise structural alignment by mapping, sizing, and tailoring the donor tissue template to seamlessly fit the dimensions of the recipient defect site; and executing meticulous tissue coaptation using fine suturing materials to maximize edge-to-edge approximation while actively reducing skin tension.[4]

In contemporary pediatric practice, reconstructive plastic surgery frequently addresses congenital craniofacial anomalies, such as cleft lip and palate repairs, microtia, and acute facial trauma.[10] The flap mechanics, tissue transfer principles, and handling dynamics pioneered by Sushruta serve as direct conceptual precursors to these modern microvascular and reconstructive workflows.[2]

Pediatric Trauma, Orthopedics, and Emergency Care

Trauma remains a primary driver of morbidity and emergency clinical admissions within pediatric populations globally. Recognizing the critical nature of acute injuries, Sushruta outlined comprehensive management algorithms for surgical emergencies, including soft-tissue trauma, thermal burns, and foreign body impaction.[2] In the domain of musculoskeletal trauma, his codified approach to managing complex fractures and joint dislocations (*Bhanga*) was remarkably systematic, establishing a structured therapeutic workflow based on four essential chronological steps.

[1. REDUCTION] ⟶ [2. MANIPULATION] ⟶ [3. STABILIZATION] ⟶ [4. REHABILITATION]

(Anchalana: Traction: (Peedana: Realignment -(Sankshepa: Splinting -(Bandhana: Functional & Extension) via DigitalPressure) via Madhu-valkala) Restoration & Perfusion)

This procedural sequence begins with **Reduction**, which involves the careful, anatomical realignment of displaced bone fragments to restore their natural structural relationship. This is followed immediately by **Manipulation**, where manual traction is applied along the long axis of the limb to overcome muscular spasms and re-establish baseline anatomical length. Finally, **Stabilization** is achieved through rigid immobilisation using custom-fit splints and supportive binding, which secures the realigned fragments in place, prevents secondary displacement, and creates an optimal biomechanical environment for uncomplicated bone healing.

This precise four-step sequence directly mirrors the core management paradigm of modern pediatric orthopaedics: **Reduction ➔ Manipulation ➔ Immobilisation ➔ Rehabilitation**. Sushruta's early emphasis on restoring natural alignment through gentle traction, coupled with his warning against overly tight binding, shows an incredibly sensitive understanding of a child's growing skeleton. By prioritising both structural stabilisation and the protection of delicate neurovascular pathways, this ancient methodology closely prefigures the protective, conservative approach that defines contemporary pediatric trauma care. This sequence remains the standard clinical algorithm for modern pediatric fracture management. His emphasis on achieving precise anatomic alignment and maintaining stable immobilisation, while carefully monitoring distal limb perfusion, demonstrates a remarkably sophisticated historical understanding of pediatric musculoskeletal physiology and vascular safety.

Surgical Instrumentation and Pedagogical Simulation

The *Sushruta Samhita* catalogues approximately 120 distinct surgical instruments, thoughtfully categorised into *Yantras* (blunt instruments such as forceps, probes, and tubular speculums) and *Shastras* (sharp instruments including scalpels, lancets, and needles).[1] Remarkably, many of these ancient tools feature ergonomic designs and specialised functional tips that mirror the essential structure of modern surgical instruments, illustrating a deep historical appreciation for operative precision and tissue handling.[1] Beyond physical tooling, Sushruta recognised that true surgical competence demands a structured, progressive

training pathway long before a trainee performs direct interventions on patients. To bridge this gap, he pioneered simulation-based medical education, requiring students to master specific mechanical and technical skills using a variety of inanimate, organic models.[1] For instance, the delicate arts of incising and excising tissue were systematically practised on fruits and vegetables, such as gourds and cucumbers, whose varying skin densities and internal structures provided a realistic analogue for human tissue response. [1]To hone these technical skills, students practised tissue scraping and debridement on animal hides or stretched leather sheets, while venesection and fluid aspiration were simulated using the vascular pathways of deceased animals or engineered, water-filled conduits. This forward-thinking educational philosophy directly anticipates modern simulation-based training, which utilises synthetic models and virtual reality platforms to ensure technical proficiency before performing procedures on pediatric patients.

Critical Evaluation: A critical evaluation of this classical framework reveals distinct strengths and historical limitations. On one hand, Sushruta championed an empirical methodology grounded in structured observation and systematic cadaveric dissection, moving surgical science away from purely metaphysical traditions.[1] He also codified comprehensive perioperative pathways that explicitly linked pre-operative optimisation directly to postoperative functional outcomes, and established pioneering principles of tissue engineering through local tissue transfer, flap design, and wound bed preparation.[4] On the other hand, the historical era imposed natural constraints: the absolute absence of advanced anaesthesia restricted the depth, duration, and intraoperative precision of pediatric procedures; the lack of germ theory limited infection control to empirical, plant-based antiseptic washes rather than true sterile technique; and diagnostic capabilities were entirely restricted to visual inspection and manual palpation without laboratory or imaging modalities.

Future Research Directions: To bridge the gap between historical insights and modern pediatric surgical science, future translational research should focus on three specific directions.

Research Domain	**Investigative Methodology**	**Clinical Objective**
1. Translational Wound Healing	Controlled *in-vitro* and *in-vivo* evaluations of classical *Shashti Upakrama* formulations.	To analyse their cellular impact on modern cell proliferation, angiogenesis, and scar tissue remodelling.
2. Biomechanical	Applying computational fluid	To map out precise stress

Flap Analysis	dynamics and digital stress modelling to ancient pedicle designs.	distribution and microvascular perfusion limits during tissue transfer.
3. Comparative Phytomedicine	Bench science testing of traditional Ayurvedic perioperative washes.	To evaluate their antimicrobial efficacy against modern, multidrug-resistant nosocomial pathogens.

CONCLUSION

In conclusion, Acharya Sushruta's ancient surgical doctrines provided an early, remarkably systematic framework for the recognition and management of pediatric surgical disorders. His clinical descriptions of congenital structural anomalies, proctological defects, acute trauma, and musculoskeletal stabilisation—coupled with his groundbreaking work in reconstructive tissue transfer and simulation-based pedagogy—clearly anticipate the core tenets of modern pediatric surgery. While naturally bounded by the technological and diagnostic limits of his era, Sushruta's methodology remains a cornerstone in the history of medicine, continuing to offer valuable insights for contemporary surgical education and translational research.

REFERENCES

1. **Gandhi MA, Patil BK.** Sushruta: The father of surgery and ancient medical innovations. *Cureus*. 2024; 16(9): e70577.
2. **Chakravorty RC.** Head and neck diseases in an ancient Indian surgical text (The Sushruta-Samhita). *Med Hist*., 1971; 15(1): 393–396.
3. **Singh DK.** Embryological insights and genetic principles in classical Shalya Tantra frameworks. *World J Pharm Res*., 2021; 10(5): 1402–1411.
4. **Farheen K.** Shashti Upakrama in wound bed preparation: A historical review of localized tissue remediation. *World J Pharm Res*., 2022; 11(8): 642–651.
5. **Chari PS.** Oration Susruta and our heritage - Who we serve. *Indian J Plast Surg*., 2003; 36(1): 4–11.
6. **Bhosale M.** Bhesaja and Shalya Chikitsa: Holistic solutions for hemorrhoids (Arsha Roga). *J Forensic Sci Secur Comment*, 2023; 4(2): 112–118.
7. **Titarmare TB.** Importance of Shalyatantra in Ayurvedic Surgical Practices: A Review. *Int J Ayurveda Pharm Res*., 2021; 9(4): 68–74.
8. **Kumar A.** Agnikarma therapy in classical and present era – A conceptual review. *Ayurpub J Ayurveda*, 2022; 7(3): 894–901.

9. **Meller C, Choroomi S.** The history of facial plastic surgeons. *Aust J Otolaryngol*., 2024; 7: 14.
10. **Grant SB.** The contested status of cosmetic and reconstructive plastic surgery. *Virtual Mentor*, 2010; 12(5): 405–410.
11. **Dave T, Habte A, Vora V, Sheikh MQ, Sanker V, Gopal SV.** The father of Indian surgical history. *Plast Reconstr Surg Glob Open*, 2024; 12(4): e5715.
12. **Champaneria MC, Workman DT, Gupta SC.** Father of plastic surgery. *Ann Plast Surg*., 2014; 73(1): 2–7.
13. **Gupta AK, Gupta M.** Historical evolution of pediatric surgery. *Indian J Surg*., 2015; 77(Suppl 2): 471–476.
14. **Kohlhauser M, Koller M, Radtke C.** Historical evolution of skin grafting—A journey through time. *Medicina (Kaunas)*, 2021; 57(4): 348.
15. **Menon IA, Haberman HF.** Dermatological writings of ancient India. *Med Hist*., 1969; 13(4): 387–392.