AYURVEDIC METHOD OF ULVA (VERNIX CASEOSA) VISHODHANAM (MALAXATION AND CLEANING) – A CRITICAL APPRAISAL

Snehalatha SN Dornala
Associate Professor, PG Dept of Kaumarabhritya, VYDS Ayurved Mahavidyalay, Khurja, Uttar Pradesh, India.

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ABSTRACT

“Kaumubarbhritya” is one among the specialty of Ashtanga Ayurveda which deals with comprehensive care of mother and child. It takes care of different phases of women’s reproductive life and the child’s life right from conception to 16 years of age. Navajatashishruparicharya is the series of steps taken for wellbeing of a newborn which includes Prana pratyagamana (neonatal resuscitation), Ul vaparimarjana (cleaning of the vernix caseosa), Mukhavishodhana (cleaning of oral cavity), Pichudhrana (Application of tampon on head), Garbhodakavamana (clearing of neonate’s stomach), Nabhinulachedana (cutting of umbilical cord), Jata karma (birth rites), Lehana karma (licking of ghee, herbs, honey etc) Abhyanga (massage with oil), Snana (neonatal bath) and Raksha karma (protection of baby). Among above, Ul vaparimarjana is the initial step after the life is stabilized. There is a chance that new borns lose body temperature because they are born naked and wet and are likely to develop hypothermia and its consequences particularly in winter. Taking care of a newborn is challenging especially in the first hour of life. Warm delivery room, immediate drying, appropriate clothing etc. are helpful in preventing hypothermia. But malaxation and cleaning of vernix caseosa with Saindhava sarpi mixture (SS mixture) effectively helps in maintaining the thermos neutral environment of the baby. Uniqueness of this procedure, methodological and practical application, classical benefits with support of available evidences are essential to be reviewed in contemporary times to appraise their utility in current times and to revive the ancient practices.

INTRODUCTION

As per Ayurveda ‘Ulvavishodhanam or Ul vaparimarjana’ is one of the important steps in Navajatashishruparicharya where ulva means vernix; Vishodhanam means malaxation (The act of softening by mixing with a thinner substance) and cleaning. In routine obstetric practice at most of the private and institutional hospitals to remove the blood stains, amniotic fluid and meconium stains of a newborn skin, labour room nursing staff wipe the vernix completely with normal saline or mixture (SS mixture) effectively helps in maintaining the thermos neutral environment of the baby. Uniqueness of this procedure, methodological and practical application, classical benefits with support of available evidences are essential to be reviewed in contemporary times to appraise their utility in current times and to revive the ancient practices.

Ulva parimarjana (malaxation and cleaning of the vernix caseosa)

The word ‘Ulva’ is a sanskrit word meaning covering, envelope, especially the membranes surrounding the foetus.3 The term ‘vernix caseosa’ first appeared in 1846 in the Dungalson dictionary of medical sciences.4 Vernix meaning varnish; caseosa meaning cheesy. It is a white creamy naturally occurring biofilm covering the skin of the fetus. This protective substance is secreted by baby’s sebaceous glands i.e., sloughed off skin cells. Vernix serves to conserve heat and protect the delicate new-born skin from environmental stress. It is also thought to have an antibacterial effect. Despite its water content (82%), vernix is nonporous. These features point towards the “waterproofing” function of vernix, thereby preventing heat loss soon after birth5.

Acharya Sushruta opines that ‘Ulva’ of a baby should be cleaned immediately after birth by the mixture of Saindhavalavana (rock salt) and Sarpi (Cow’s ghee)6.
Preparation of the Ayurvedic pediatrician/technician

- Hands should be clean, dry, warm and soft.
- Nails should be cut off
- Wear the hand gloves

Preparation of the room

- The room and cushion based baby tray should be clean, dry, sterile with room temperature maintained.
- Room should not be too dark or too lighted.
- Fans should be switched off.
- Comfortably warm and free from draught.

Procedure

- It is an inexpensive method and should be performed on a dry, clean and warm place.
- The new born should be received in a warm cushion based tray or else the baby will lose heat through conduction method.
- New-born is placed in supine or on one side position with head slightly low position.

Materials required for SS mixture:

1. Cow’s ghee/Clarified butter ~ 20ml
2. Rock salt ~ 3gms fine powder
3. Bowl -1
4. Gauge piece
5. White colored soft, smooth, clean & prewarmed towels ~ 2 (medium size)

Fig no 1: SS mixture

Benefits

Benefits of malaxation and cleaning with SS mixture are discussed below with respect to how this mixture restores removal of vernix. Ayurveda considers ghee as Mangalya (auspicious), Pavitra (holy) and Sugandha (pleasing odour). Rock salt contains 85% of NaCl and 15% of trace minerals (84 elements).

1. Antioxidant property

- Vernix is said to have antioxidant properties due to the presence of vitamin-E and melanin in it.
- Clarified butter contains triglycerides, diglycerides, monoglycerides, phospholipids, contains beta carotene 600 IU and Vitamin E which are known anti-oxidants.
- Newborns have reduced antioxidant defense processes including decreased levels of vitamin E, β-carotene, melatonin, ceruloplasmin and transferrin which results in high oxidative stress, the antioxidant properties of this SS mixture may help in coping with the pro-oxidant environment.

2. Moisturizing properties

- Vernix acts as an agent to moisturize the stratum corneum because of its high-water content. It contains filament aggregating protein, which when broken down forms water-binding molecules.
referred to as Natural Moisturizing Factor (NMF), which operates to maintain suppleness and plasticity of stratum corneum.

- Ghee prepared by traditional Ayurvedic methods contains higher amount of DHA; Omega-3 long-chain polyunsaturated fatty acids. Thus SS mixture because of its Sngdha (greasy), guru (heavy), Picchila (slimy) and Sukshma (penetrating) Guna acts as epidermal barrier and natural moisturizer for stratum corneum and prevents dryness and chaffing of skin.

3. Skin cleansing properties
- Vernix had shown better efficacy when compared to standard commercial skin cleansers in experiments performed using human skin soiled with carbon particles.
- The SS mixture besides its cleansing property it can provide physiologically relevant lipids to the skin surface with additional miniaturization and maintain skin surface integrity. With Sukshma, Drava & Kaphavilayana property it penetrates quickly into stratum corneum and cleanses effectively.

4. Anti-infective property
- Vernix, like the epidermis, contains antimicrobial peptides and has a direct role in defense against bacteria.
- SS mixture acts as anti-microbial. Cow’s ghee has Rakshoghana property.

5. Wound healing properties
- Vernix has shown to increase skin metabolism in vitro by increasing glucose consumption and lactate production. The regulation of transepidermal water gradient is known to be important in the epidermal barrier formation and regeneration following wounding.
- Ghee has been reported to exert significant wound healing activity. SS mixture has the properties like waterproofing, barrier function, hydration, anti-infective, and antioxidant properties. Because of its Ropanaguna (healing property) and Vranahara property; effective in wound healing, skin tears and birth trauma.

6. Reduces stress and enhance immunological functions:
- Cow’s ghee is Kaphakara (increases Kapha) and Ojovardaka (increases Ojas) which helps to decrease Vataodsha; thus reduces stress and enhances immunological functions.

7. Prevents hypothermia and insensible water loss
- A new born’s body surface is about three times greater than an adult’s, compared to the weight of his/her body. This high surface area to body ratio results in loss of heat via skin surface. Infants have incompetent stratum corneum and high transepidermal water loss; they loss heat through method of evaporation, conduction, convention and radiation.
- Vernix acts as protective bio film and thermoregulation. This SS mixture being an insulator, prevents transepidermal water loss and prevents hypothermia.

8. Provides stimulation and increases peripheral circulation:
- A baby’s strongest sense at birth is sense of touch. When the skin is gently aroused through malaxation many tactile receptors are stimulated. These impulses stimulate tactile receptors that encode touch information before sending it to the central nervous system and the brain stem. Through the brain stem, tactile information is widely distributed throughout the brain. It is normal to have poor peripheral circulation in the 1st hour of life of newborn. Gentle malaxation with SS mixture all over the body will increases the rate of blood flow to the periphery.

9. Aid in examination of newborn
- During malaxation and cleaning the vernix from the body surface of the newborn; examine the baby closely for APGAR score, assessment of gestational age, any birth complications or congenital anomalies.

CONCLUSION

Vernix is a white, creamy naturally occurring biofilm protective covering of the skin of newborn which serves to possess multiple overlapping maturational functions; to establish a satisfactory adaptation from fetal to neonatal physiology. Traditional method of wiping of skin of a newborn (Ulva vishodhanam) with Saindava sarpi mixture (SS mixture) was considered as an effective method for restoration of functions of vernix caseosa. As the years passed the practice and the procedure has lost its originality. SS mixture has anti healing property, skin cleansing property, moisturising property, antioxidant property & wound healing property.

Preparation of Saindhavasarpi (SS) mixture is elaborated with respect to its practical utility so as to build confidence among the Ayurveda fraternity, to revive its usage in current times. Classical and contemporary evidences documented by Ayurveda masters and also reported by various scholars provide collateral evidence in support of individual constituents of SS mixture substantiates science and art behind advocacy of Ulva vishodhanam.

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