



**Case Study**

**A CASE REPORT ON ICHTHYOSIS VULGARIS; AYURVEDIC VIEW AND MANAGEMENT**

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**ABSTRACT**

Ichthyosis are a heterogeneous group of Hereditary and acquired disorders of keratinization characterized by the presence of visible scales on skin surface. The word is derived from Greek root for fish – ichtys. There are two major types of ichthyosis that is Congenital and Acquired. Ichthyosis vulgaris one among congenital ichthyosis is the most common with an estimated incidence rate of 1 in 250 births, with an onset in early childhood characterized by fine, whitish scales which often sheds off. The severity of symptoms can vary enormously from mildest, most common types such as Ichthyosis vulgaris, up to life threatening condition such as Harlequin Ichthyosis. In general all types of Ichthyosis has been identified as rare disease by National Organization for Rare Disorders (NORD). There is currently no cure for ichthyosis only symptomatic management is done. Topical application is the major treatment according to modern medicine, which should be used daily In Ayurveda skin diseases have been described under the heading *Kushta*; which is again classified into *Mahakushta* and *Kshudrakushta*. *Ekakushta*, one among *Kshudrakushta* having *Dosa* predominance of *Vata Kapha* shares features more or less similar to ichthyosis vulgaris. Ayurvedic management aims at clearing the *Srotas* and providing internal and external *Snehana* has produced a remarkable change in a case of congenital ichthyosis.

**INTRODUCTION**

Ichthyosis is a family genetic skin disorders characterized by dry, thickened, scaly skin. [1] There are more than twenty types of ichthyosis which range in severity of symptoms, outward appearance, underlying genetic cause and mode of inheritance. The severity of symptoms can vary enormously from mildest, most common types such as Ichthyosis vulgaris, up to life threatening condition such as Harlequin Ichthyosis [2].

Congenital Ichthyosis can be mainly of 4 namely Ichthyosis vulgaris, X-linked Ichthyosis (XLI), Lamellar Ichthyosis (LI), Epidermolytic hyperkeratosis (EH). XLI occurs in males, soon after birth, with prominent dirty brown scales on neck, extremities, trunk and buttocks. Palm and sole involvement is minimal.

Usually it doesn't improve with age and worsen during temperate climate and winter. LI its onset is at birth usually as collodion on baby, equally in both sexes. Autosomal recessive type and soon after birth collodion membrane shed with subsequent large, coarse, tessellated scales involving entire body. Scales are thick, brown, accumulated on lower extremities, extropium seen in eyes. LI persist throughout age with no improvement. EH is an Autosomal dominant inheritance, mutation of genes encoding epidermal differentiation keratins, keratin 1 and 10 are effected. Present shortly after birth with blistering, generalized localized lesions. With time it becomes keratotic and verrucous but blisters continue. Palmar and plantar skin is usually affected. HI is an extremely rare condition in which child born with very thick plates of stratum corneum separated by deep cracks and fissures. Eclabium, ectropion and absence of rudimentary ears results in a grotesque appearance. These babies usually die shortly after birth [3].

Acquired Ichthyosis usually occurs in adults and can be associated with malignancies, AIDS, sarcoidosis, SLE etc [3].

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Ichthyosis vulgaris (IV) is the most common disorder of keratinization and accounts for more than 95% of cases, with an onset early childhood and an autosomal dominant inheritance; heterozygotes show a very mild phenotype with complete penetrance (semi dominant) such cases misdiagnosed as dry skin. The disorder is life long, characterized by fine whitish scale involving particular extensor surface of arms and legs as well as scalp. Flexors are usually spared. There may be accentuation of palmar and plantar marking, keratosis pilaris and features of atopy<sup>[4]</sup>.

### Case Presentation

A 20 year old male presented to OPD with dry scaly thickened skin over body (except intertriginous area and scalp) since birth and was diagnosed as Ichthyosis vulgaris. He had occasional itching associated with this complaint.

### Family History

Maternal aunt had dry skin and premature wrinkling.

### Past Intervention

Was under allopathic medication mainly topical application.

### Course of Events

- Patient was born to a non-consanguineous couple with a low birth weight preterm delivery and was covered with erythematous scaly lesions. So immediately transferred to NICU.
- Even though, the doctors informed them that the baby may won't survive his condition improved in 2-3 days.
- After shedding of scaly skin, new skin developed which appeared healthy.
- Up to 1 year of age his skin looked healthy and normal.
- After one year, round, thick patches started appearing over body; associated with itching.
- Flaky lesions on scalp and dandruff like lesions on eyelids were also present which subsided in 2-3 days and recurred.
- Arm pit and groin region were unaffected.
- This condition continued till 12 yrs of age.
- In between he was under allopathic and homeopathic medication. Mainly topical application.
- After 13yrs of age, he developed hyperkeratinisation of skin on the affected area especially over lower limb. He also developed flaky lesions on scalp and cracks over soles. And on exposure to sunlight, skin appears reddish.

- He is also having low perspiration.
- There was history of improvement in warmer seasons and condition usually aggravated in winter seasons.

### Personal History

His appetite was reduced and bowel used to be regular with well-formed stool and urine was normal. There is no history of smoking or consuming alcohol. There is no history of any allergies.

### On Examination

Significant pertinent finding which includes thick hyperkeratotic, fish scaled plaques with fissures were present ventral and dorsal aspect of bilateral extremities including arms, forearms, thighs. Dry fine scales were seen in back of the body. Face was slightly erythematous in nature.

Vitals: Heart rate- 84/min

Pulse rate- 84/min

Respiratory rate- 18/min

BP- 110/70mm Hg left arm sitting position

Height: 174cm

Weight: 48kg

BMI: 15.89 kg/m<sup>2</sup>

### Ayurveda Dashavidha Pareeksha

Prakriti – Vata pitta

Vikruthi: Dosha – Tridosha

Dushya – Rasa rakta mamsa meda

Mala – Sweda lasika

Srotas – Rasa rakta mamsa meda sweda

Sroto dushti – Sangam, Atipravrthi

Saram – Madhyamam

Samhananam – Avaram

Satmyam – Madhyamam

Satwa – Madhyamam

Pramanam – Madhyamam

Aharashakthi – Abhyavaharana shakthi – Madhyamam

Jaranashakthi – Avaram

Vyayama shakthi – Madhyamam

Vaya – bala

### Ayurvedic Intervention

Both internal medicine and external procedure was selected based on *Dosha* predominance and condition of the patient.

Table 1 and table 2 shows internal medicines and procedures advised in different phases of treatment respectively.

**Table 1: Internal medicines**

S. no	Medicine
1.	<i>Panchatikthakam kashayam</i> 90ml bd bf
2.	<i>Avipathi choornam</i> ½ tsp with <i>Kashaya</i>

3.	<i>Chandraprabha tab 1-0-1</i>
4.	<i>Mahatiktakam ghritam – Accha snehapanam</i>
5.	<i>Patoladi kashayam 90ml bd</i>
6.	<i>Mahatiktaka ghritam 1tsp with Kashayam</i>
7.	<i>Manjishtadi ksheera kashayam bd before food</i>
8.	<i>Mahatiktaka ghritam 1 tsp with Kashayam</i>
9.	<i>Avipathi choornam 1 tsp in lukewarm water HS</i>
10.	<i>Chyavanaprasham – given as Praasha vidhi for 14 days</i>

**Table 2: Procedures**

S. no	Procedures
1.	<i>Kashaya dhara with Manjishtadi kashayam – 7 days</i>
2.	<i>Snehapanam</i>
3.	<i>Abhyangam with Sudhadhurvadi Tailam and Usnambu snanam- 3 days</i>
4.	<i>Virechanam with Nimbamrita erandam 25ml with lukewarm water</i>
5.	<i>Abhyangam with Jeevantyadi yamakam – 7days</i>
6.	<i>Ksheeradharma with Mahatiktaka ksheera kashayam – 7 days</i>
7.	<i>Shashtika annalepam, Abhyngam with Lakshadi keram + Jeevantyadi yamakam – 7 days</i>
8.	<i>Ksheeravasti– Madhuyashtyadi tailam, Mahatiktaka ghritam, Manjishtadi ksheera kashayam – 7 days</i>
9.	<i>Kayasekam – Bala tailam Thalam – Ksheerabala + Panchagandha choornam – 7 days</i>
10.	<i>Virechanam with Avipathi choornam 20gm in lukewarm water followed by Peyadi kramam</i>

### OBSERVATION AND RESULTS

Figures 1 and 2 shows condition before treatment; figures 3 and 4 shows condition after the treatment



Five clinical sign of IV were scored from 0-3 (0 means not present, 1 mild, 2 moderate, 3 severe); skin xerosis, hyperlinearity of palms, scale on legs, scalp desquamation and keratosis pilaris. These were assessed and changes were noted. Table 3 and Table 4 shows, before and after treatment changes respectively. [5]

**Table 3: Shows, before and after Treatment Changes Respectively**

S. No	Symptoms	Grade	
		Before Treatment	After Treatment
1.	Skin xerosis	3	1
2	Hyper linearity of palm	2	2
3	Scale on legs	3	1
4	Scalp desquamation	0	0
5	Keratosis pilaris	1	0

Usually he had a low perspiration, but by the end of treatment there was a considerable difference obtained when compared to initial

### DISCUSSION

Ichthyosis vulgaris results from mutation happening in gene encoding protein filaggrin (FLG). The mutation leads to defective production of filaggrin. FLG is a filament associated epidermal protein required for bonding of keratin fibers in epidermal cells to form effective skin barriers. It helps maintain the skin pH, retain moisture in stratum corneum and reduces trans epidermal water loss. Reduced skin hydration which is associated with defective filaggrin results in dryness of skin. Inability of the squamous (skin cells) to remain hydrated result in excessive scales as they move upward through stratum corneum. Hyperkeratosis results from compensatory repair mechanism increasing cell proliferation [6].

*Kushta* is wide spectrum which covers almost all types of skin diseases. It involves the vitiation of three *Dosha* that is *Vata pitta kapha* and four *Dushya* such as *Twak mamsa rakta lasika*. According to Acharya Charaka it's classified as two namely *Mahakushta* which is of seven in number and *Kshudrakushta* which is eleven in number. Depending upon the predominance of *Dosha* characteristics of each *Kushta* varies. *Ekakushta* comes under *Kshudrakushta* having *Vata-kapha dosha* predominance.

In Ayurveda the symptoms of Ichthyosis vulgaris resembles the *Ekakushta lakshana*.

*Ekakushta lakshana* according to Acharya Charaka *Aswedanam mahavastu yat Matsyasakalopamam* [7].

According to Ashtanga Hridaya, *Mahashrayam aswedanam matsyasakala sannibham* [8].

*Mahavasitwathi mahashtanam, Matsyasakalopamithi matsya twak sadrishyam* [9].

**Table 4: Correlation of ichthyosis vulgaris with respect to *Ekakushta***

S. No	Ichthyosis Vulgaris	<i>Ekakushta</i>
1.	Fish like scales, white fine.	<i>Matsyasakalopamam</i>
2.	Absent or less perspiration	<i>Aswedanam</i>
3.	Diffuse or generalised involvement	<i>Mahashraya/Mahavasthu</i>

### Aim of our treatment

- Correction of *Agni, Mridu langhana*
- *Snehapanam*
- *Shodana*
- *Shamana*
- *Rasayanam*

Here in this case all medicine and procedures were selected depending upon the clinical presentation of the patient. Medicines like *Panchatiktaka kashayam, Avipathi choornam, Mahatiktaka ghrita, Patoladi kashayam* are specifically used *Kushta roga*. *Ksheera kashaya dhara* were selected as patient showed *Pittaja lakshana* during the course of treatment. *Shodhana* treatment mainly used here is *Virechanam*. *Shodhanam* is the prime treatment for *Kushta* and is selected only after assessing the *Bala of Rogi*. In the final stage more of *Brihmana* and *Snigdha* procedures were opted that's why *Ksheera*

*vasti* and *Kayasekam* was selected. *Sneha sweda* will also help in improving perspiration. Considering his BMI after correcting the *Agni* and *Kushtagna chikitsa* next aim was to improve his general condition and absorption hence *Chyavana praasham* was given as *Praasha vidhi* for 14 days, as its *Phalasaruthi* states that *Krishaanam tu Anghavardhanam*.

### CONCLUSION

Ichthyosis is a group of skin disorder marked by dry scaly lesion, which can be inherited or acquired in nature. Here it has been correlated with *Ekakushta*. Since it's a congenital disease and in Ayurveda congenital disorders mainly come under *Sahaja/ Adibala pravarta vyadhi*, its prognosis is generally *Asadya/Yapya*; so repeated course of treatment is required. This case report shows the effectiveness of Ayurvedic treatment towards reducing the symptoms

of ichthyosis vulgaris with a planned course of treatment. From this two month of treatment a satisfactory result was obtained.

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