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## Ayurvedic Management in Bullous Impetigo: A Case Study

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### ABSTRACT

Children are most often afflicted with certain seasonal infectious skin disorders and Impetigo is one among them. This infection is most prevalent in hot humid season of the year and more commonly affect infants, preschool children and young adult's population. There are two classical forms of impetigo as Nonbullous and Bullous form, and later is also known as bullous impetigo of which the most common pathogen is staphylococcal infection. This type of impetigo is also known as impetigo neonatorum, which is characterized by scattered thin walled bullae arising from normal skin containing clear yellow or slightly turbid fluid which is devoid of surrounding erythema.

The present case study deals with a 3<sup>1/2</sup> month old male baby, which was clinically diagnosed as a case of Bullous impetigo presented with clinical symptoms like appearance of bullae over the right feet which gets ruptured after 4 to 5 days. It ruptures with discharge of slightly turbid fluid and leaves back an erythematous superficial ulcer. Subsequently there was appearance of multiple bullae in other parts of the body with same progression. General conditions, feeding habits and routine examination of the baby were normal except slight itchy sensation over the lesion. Baby was breast feed and gaining the weight as per normal standards.

Based on the clinical presentation of the disease and *Dosha* the disease was diagnosed as *Charmadala Kusta* with involvement of *Twaka* and *Masa Dhatu*, *Raktavaha Srotus* and treated as per Ayurvedic guidelines.

Baby was treated with internal medication like *Triphla Guggulu*, *Gandhaka Rasayan*, *PatolaKatukaRohiniaadi Kshaya* in required doses for 15 days along with external application of *Sphatikabhasma*, *Tankanabhasma*, *Godantibhasma*, *Prawalbhasma* in calculated doses. Parents were advised to bath the child with *NimbhaPatra Kashaya*. Mother was advised to take certain *Sthanya Shodaka* Drugs like *Patha* to nullify remote chances of feeding the vitiated breast milk.

After 15 days of Ayurvedic treatment baby was relieved from clinical complaints with no recurrence. However the child was advised to continue *KatukaRohinyadhi Kashaya*, *Nimbodaka Snana* for next 15days. The case detail will be discussed in full paper.

### KEYWORDS

*Bullous impetigo, Bullae, Ayurvedic treatment*



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## INTRODUCTION

Impetigo is one of the common childhood infections of the skin with definite seasonal relationship. Disease is quite common in infants, preschool children and young adult age group and hot humid season<sup>1</sup>. Global population of children suffering from impetigo at any one time to be in excess of 162 million, predominantly in tropical, resource-poor contexts<sup>2</sup>. This infection most commonly afflicts the children of low-social economical status. Although the condition carries low mortality rate, but it's morbidity rate is high. Among the two classical forms of impetigo, the Bullous form is more common compared to non bullous form<sup>3</sup>. The Bullous form is also known as impetigo neonatorum. This is characterized by scattered distribution and bullae having thin wall of skin containing clear yellow or slightly turbid fluid<sup>4</sup>.

Bullous impetigo is most prevalent infection of infants and young children, which is characterized by flaccid, transparent bullae usually <3 cm in diameter on previously untraumatized skin. Skin of the face, buttocks, trunk, perineum and extremities, are most commonly affected areas<sup>5</sup>. Rupture of a bulla occurs easily and leave back narrow rim of scale at the edge of shallow, moist erosion, depicting a superficial ulcer with reddish

base. Surrounding erythema and regional adenopathy are generally absent. Unlike those of nonbullous impetigo, lesions of bullous impetigo are a manifestation of localized staphylococcal scalded skin syndrome and develop on intact skin<sup>6</sup>.

Bullous impetigo is always caused by *S. aureus* strains that produce exfoliative toxins. The staphylococcal exfoliative toxins (ETA, ETB, ETD) blister the superficial epidermis by hydrolyzing human desmoglein 1, resulting in a sub corneal vesicle<sup>3</sup>.

Clinically after the appearance of Bullae which is, painless rapidly progress to large, thin-roofed, flaccid bullae with little or no surrounding erythema. The contents of the bullae are clear at first; later on they may be turbid after rupture erosions and brownish crusts form. Central healing and peripheral, extension may give rise to circinate lesions<sup>4</sup>. Turbid fluid of the vesicle is highly contagious and leads to fresh lesion at the area of its contact. There will be healing of the lesion with slight hypo pigmentation in terminal parts of the disease.

The common investigations which lead to appropriate diagnosis of the same are Gram's stain of early vesicle which shows gram-positive cocci, extracellular and within polymorph nuclear leukocytes. Culture reveals *Staphylococcal aureus*<sup>4</sup>.



## CASE PRESENTATION

In the present case, a male child aged three and half months was brought to *Kaumarabhritya* OPD by parents and presented with blister on the right feet below the ankle joint region without any definite identifiable cause (Figure 1). Later by 4 to 5 days of blister formation, it gets ruptured with watery discharge, and subsequently there was formation of three to four scattered blisters on left feet and manifestations of same occurred in other parts of the body. On examination, baby was alert with undisturbed feeding habits, thriving well with normal vitals and without any significant perinatal and birth history. Child had no history of fever during course of illness. Slight itching at the site of lesion was present at times. Patient had undergone treatment from contemporary system of medicine and got no relief. Hence parents seek Ayurvedic treatment and brought the child to *Kaumarabhritya* OPD at National Institute of *Ayurveda*, jaipur for further management.

On examination the weight of the child was found to be 7kgs, height 58cms, chest circumference 39cms and head circumference 40.5cms. Child normally achieved the mile stones of development for age like social smile, neck control and rolling over. On examination the heart rate

was 132/min and respiratory rate was 36/min and temperature 98.8<sup>0</sup>F. Major systemic examination shows the normal findings. On examination of the skin, there were bullous blisters in the right feet and the left feet with rupture of the prior one, with the tendency of spreading to other parts of the body. On the basis of clinical symptoms baby was diagnosed as impetigo of bullae type.

As per *Ayurveda* above clinical condition was identified as *Pitta* dominant condition associated with *Kapha* and pathology was confined to *Shweta* layer of *Twak*. Vitiating *Dosha* took the *Sthana Samshraya* in *Raktavaha Srotus* with presentation of *Sphota*, *Raga* as symptoms and with tendency of rapid spread. On the basis of Ayurvedic standards disease was diagnosed as *Charmadala Kusta* and *Shamana* (Palliative) line of treatment has been planned.



Right feet of the baby(1.1)  
Fig 1 Before Treatment



Left feet of the baby (1.2)  
Fig 1 Before Treatment





## MATERIALS AND METHODS

A *Shamana* type of treatment was planned in the present case. In the present case, child was on breast feeding and to overcome the chances of consumption of vitiated breast milk being a remote cause of the disease, mother was thoroughly questioned regarding her *Ahara*, *Vihara* etc. To nullify the remote chances of breast milk vitiation, mother was advised to take *Patha Kashaya*(*Cissampelospareira*) for 15 days in the dose 30 ml twice daily. Minimum dressing was allowed to check, possible chances of cloth allergy and rested on smooth cotton bed with totally disinfected environment.

Meanwhile, daily *Avagaha* or tub bath was advised with lukewarm *Nimbhapatra Kashaya* for 15 minutes twice daily to ensure the strict aseptic environment of the skin. Follow-up was done on every 7<sup>th</sup> day to assess the improvement.

This was followed by internal medication like one tablet of *Gandhaka Rasayana* (125mg) in crushed form mixed with warm water thrice in a day with milk and *Triphla Guggulu*(250mg) in crushed form mixed with water one tablet twice in a day. This was followed by *PatolaKatukaRohinyadi Kshaya* - one teaspoon (5 ml) mixed with one teaspoon of water thrice in a day was administered continuously for 15 days.

Meanwhile external application of *Sphatikabhasma*, *Tankanabhasma*, *Godantibhasma*, *Prawalbhasma* each in equal quantity (2gm) mixed with *NimbaPatra Kwatha* was applied mildly over the skin lesion thrice in a day for 2 hours.



Right feet of the baby (2.1)  
Fig 2 After treatment



Left feet of the baby (2.2)  
Fig 2 After treatment

## OBSERVATION AND RESULTS

After 15 days of *Shamana* line of Ayurvedic treatment, there was significant improvement in the skin blisters or bullae. The Impetigo bullae dried up completely with normalization of the skin color in both the limbs as shown in the below picture (Figure 2). Superficial ulcer heals without scaling anymore. Further there was no recurrence and there was no appearance of fresh lesions indicating clearance of the



disease from its root with marked improvement in general condition of the baby.

## DISCUSSION

Present case was diagnosed as *Charmadala Kustha* or Impetigo bullosa, and showed vitiation of *Pitta* and *Kapha Dosha*<sup>7</sup>. The basic *Dhatus* were involved were *Twaka*, *Masa*, *Rakta* and *Lasika*<sup>8</sup>. Disease shows *Sthana Samsraya* in *Raktavaha Srotus* and disease becomes *Vyakta* at *Twaka*<sup>9</sup>. Disease was diagnosed at *Vyaktavastha* with symptoms like *Sphota*, *Raga* and *Visarpana*<sup>10</sup>. With all the above background the *Shamana* or palliative type of treatment was planned. By considering the limitation of child to take *Ushna* and *Teekshana* drugs, the *Thikta Rasa Pradhana* drugs which were considered as *Sheeta Rasa* like *Katuki*, *Patola* was administered in minimum quantity by taking *PatolaKatukaRohinyadi Kwatha*. These drugs acts like *Pitta* and *Kaphahara* along with *RakthaShodhaka* property. *Rakta* and *Pittahara* property of above drugs has already been proved by previous works<sup>11</sup>. *Gandhaka Rasayana* which is known for its anti infective property<sup>12</sup> and was given with milk medium as milk is more congenial to newborn. *Gandhaka Rasayana* which contains anti infective

drugs successfully checks the further spread of the infection by facilitating the healing process.

Further external application of *Sphatikabhasma*, *Tankanabhasma*, *Godantibhasma*, *Prawalbhasma* each in equal quantity (2gram) mixed with *NimbaPatra Kwatha* was applied mildly over the skin lesion. These drugs were not only *Pittahara* drugs but also due to its *Kshara* property, neutralize the skin Ph and facilitated early healing. Daily *Avagaha* or tub bath to the baby with water which was medicated with lukewarm *NimbhaPatra Kashaya*, due to its *Tikta Kashaya Rasa* provided an aseptic environment of the skin and helped for early healing and check the further spreading of lesion.

## CONCLUSION

Hence in the present case of Impetigo bullosa which was diagnosed as *Charmadala Kusta* as per Ayurvedic standards based on symptomatology. Ayurvedic management of above case under *Shaman* line of treatment showed tremendous improvement with corrections of pathology by destroying the root cause of the pathology. Internal administration of *PatolaKatukaRohinyadhi Kashaya* along with *Triphala Guggulu* and *Gandaka Rasayana* in prescribed doses was given



along with external application *Sphtikabhasma*, *Tankanabhasma*, *Godantibhasma*, *Prawalbhasma* followed by *Nimbodaka Avagaha*. It can be considered as ideal treatment in the management of Bullous Impetigo or *Charmadala Kusta* as per *Ayurveda*.



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