



Case Report

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Ayurvedic Management of Upanaha Induced Contact Dermatitis, a Type IV Delayed Hypersensitivity Reaction- A Case Report

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ABSTRACT

Adverse drug reactions (ADR) are undesirable side effects of a pharmacological therapy that have a significant impact on an individual's quality of life. A 79-year-old female presented to the Panchakarma OPD of Sri Dharmasthala Manjunatheshwara College of Ayurveda and Hospital, Hassan, with complaints of itching, burning sensation, rash, and swelling in both knees for three days. She was diagnosed with an *Upanaha* induced contact dermatitis, specifically a Type IV delayed hypersensitivity reaction. The symptoms were completely resolved after a 15-day therapeutic strategy with *Sudarshan Ghana vati*, *Laghusootshekhar rasa*, and local application of *Shatadhouta ghrita* and *Aloe Vera (Aloe Berdensis)*.

Keywords: Ayurveda, Adverse Drug Reaction (ADR), Delayed Hypersensitivity Reaction, *Upanaha*.

INTRODUCTION

An 'adverse drug reaction' (ADR) is a patient's clinical reaction to a drug, defined as "a substantially harmful or undesirable response, likely to result from an intervention pertaining to the use of a pharmaceutical product, which anticipates hazard from subsequent administration and warrants prevention or specific treatment, or modification of the treatment regimen, or cessation of the product" [1].

Contact hypersensitivity dermatitis emerges when haptens, which are exogenous antigens, penetrate the skin and make contact with epidermal and dermal cells, exacerbating an inflammatory reaction. Antigen presentation and sensitization of these haptens to CD4 and CD8 T-cell lymphocytes are essential roles of dermal dendritic cells and Langerhans cells. They secrete cytokines and other enzymes in order to lure other immune cells to the location of hapten exposure [2]. The majority of adverse events associated with the use of herbal medicines or products are due to either poor product quality or improper use [3].

Every health-care system has limitations in the form of adverse medication reactions. Inappropriately administered *Panchakarma* (~five folds of metabolic bio-purification) procedures triggers significant unwanted drug interactions. *Ayurveda Samhitas* emphasises on the *Arha* (~indications) and *Anarha* (~contraindications) of therapies, as well as the *Samyak Yoga* (~proper symptoms) and *Ayoga* (~improper symptoms) and *Vyapads* (~complications) of *Panchakarma* procedures. *Upanaha sweda* (~fomentation through poultice) is commonly practised modality of treatment in the management of *Janusandhigata Vata* (~Osteoarthritis of knee) [4]. It combines *Ushna* (~hot in potency) and *Teeksna Dravyas* (~sharp in potency) coupled with *Saindhava* (~rock salt), *Drava dravya* (~suitable liquid media), *Godhuma* (~wheat), and *Choornas* (~medicated powders) linked together and wrapped over affected areas. *Upanaha* should be not to be tied on for long time in *Grishma Ritu* (~season), *Pitta Prakriti* (~bodily constitution), sensitive individuals with known hypersensitivity. *Akala* (~wrong timing/excessive weather), *Alpamatra* (~insufficient quantity), *Atimatra* (~excess quantity) *Purana* (~old) *Asamyak Sanskrita* (~not processed well) without *Bhavita Aushada* (~not potentiated) causes unexpected adverse outcomes [5].

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Presya (~nursing staff), Bhaisajya (~drug), Vaidya (~physician), Atura (~patient) all are equally accountable for the success of a Panchakarma therapy [5]. Mistake on anyone's part might lead to the formation of Adverse Drug Reactions [6].

CASE REPORT

A 79-year-old female presented with itching, rashes, burning sensation, swelling on the both knee for three days.

Detailed history and clinical findings

The patient had been asymptomatic three days prior to approaching our hospital on 30th of April. Over a period of three days there was, swelling redness and itching in bilateral knees. Priorly, on 7th of April she was admitted in our hospital for the treatment of *Janusandhigata vata* (~Osteoarthritis of knee) and was treated with *Upanaha*, *Pooga trim basti* (~medicated enema therapy), *Udwartana* (~powder massage with medicated drugs) followed by *Pariseka* (~Fomentation by pouring warm fluids), *Shastika shali pinda sweda* (~fomentation with bolus of rice) for a 7- day course. *Upanaha* was prepared using *Godhuma* (~wheat), *Kolakullatha lepa* [7]. (~A formulation of medicated drugs), *Saindhava lavana* (~rock salt), *Dashamoola kwatha* as *Drava dravya* (liquid media), and *Mahavisagarbha taila* [7]. (~An oil formulation) and was asked to keep for 7-8 hours. There was no history of any hypersensitive reaction to *Upanaha* over the 7-day course of treatment. The patient was relieved from symptoms of *Janusandhigata vata* and was discharged on 15th of April. During discharge she was prescribed *Shivagutika* [9]. *Ksheerballa avarta taila* [10]. for oral intake and *Mahavisagarbha taila* [7]. for local application. During discharge or during the hospital stay there were no evidence of skin irritation in the *Upanaha*-tied areas. However, after 15 days of discharge, she experienced skin rashes, swelling delimited to the areas where *Upanaha* was wrapped. She gave the history that the event precipitated after an intake of goat meat prepared in curd.

She was a known case of diabetes and hypertension for 20 years and was under allopathic medication for the same.

There was no history of any drug allergy or atopy and there was no history of any fever.

Clinical examination

Dermatological examination displays erythematous, oedematous, and plaque lesions along the edges of the area draped with *Upanaha*.

Dashavidha pariksha (~Ten examining components)

The patient's *Prakriti* (~body constitution) was *PittaKaphaja* (~with dominance of *Pitta* and *Kapha* humor) whereas the *Vikiriti* (~abnormal body constitutions) was *Vata Kaphaja* (~with dominance of *Vata* and *Kapha* humor); *Samhanana* (~compactness) *Ahara shakti* (~ability to assimilate food) *Satva* (~will power) and *Satmya* (~homologation) *Sara* (~essence of tissues), *Pramana* (~measurement of bodily organs) *Pramana* (~measurement of bodily organs) were all determined to be *Madhyama* (~moderate quality); *Vyama shakti* (~ability to perform strenuous work) were determined to be *Avara* (~poor quality); *Pramana* (~measurement of bodily organs) was *Madhyama* (~moderate) and *Vaya* (~age) was *Vridhdha* (~old age).

Diagnosis - Based on the clinical manifestations and comprehensive history, the patient was diagnosed as *Upanaha* induced contact dermatitis, a delayed type IV hypersensitivity under the broad range of ADR.

Treatment protocol

Based on the symptoms, the treatment was aimed at *Pitta Shamana* (~alleviating *Pitta*), *Raktasodhaka* (~blood purifier).

Intervention/Rescue medication:

Medication	Dosage and Anupana (~Adjuvant)
<i>Sudarshan ghana vati</i> [11].	250 mg twice daily with <i>Ushna jala</i> (warm water)
<i>Laghu sootasekhara vati</i> [12].	250 mg twice daily with <i>Ushna jala</i> (warm water)
Fresh Aloe vera pulp [13].	Local application of three/four times per day
<i>Shatadhouta ghrita</i> [14].	Local application, three/four times per day

Follow up and outcome

The patient showed marked improvement in the signs and symptoms within a span of 15 days. There was complete remission of redness, itching and swelling in bilateral knees by May 14th.



Figure 1: Day 1st (Before Treatment)



Figure 2: Day 6th (During Treatment)



Figure 3: Day 15th (After Treatment)

DISCUSSION

Ayurvedic scriptures go into great detail about drug safety and adverse reactions. There is a detailed understanding of *Virruhadravaya prayoga*~ (drug interaction, *Dravya samskara* (~potentiation of drugs) *Avasthanisara dravya pragoga* (~conditional usage), and *Prakruti virrudha dravya* (~Contradicted based on prakriti) and their influence in success of any Ayurveda modality of treatment or prevent adverse outcomes [5]. *Dosha*(~bio humors), *Ausadha* (~drugs), *Desha* (~climate of the region) *Kala* (~time of application) *Satmya* (~homologous) ,*Vaya* (~age) are the *Samikshya bhava* [15]. which are to be assessed correctly by a *Vaidya* (~physician) with proper *Yukti* (~Proper reasoning) while selecting a *Panchakarma* procedure.

Upanaha is a remarkably effective *Bahya Upakrama* (~external application) that may be performed conveniently in OPD and IPD settings, however *Ausadha* (~drug), *Desha* (region), *Kala* (~season/time of application), *Satmya* (~homogeneity), *Agni* (~digestive capacity), and *Vaya* (~age) should be thoroughly examined to accomplish the desired outcome. The necessity of *Parihara Vishay* (~precautionary steps after body cleansing) and *Parihara Kala* (~time period to follow precautions) in the success of a *Panchakarma* is emphasised. In this instance there was a history of consumption of non-vegetarian food along with curd during the *Parihara kala*, after which the symptoms were aggravated.

Kolakukthadi lepa, *Saindhava* (~rock salt), *Godhuma* (~wheat), and *Dashmoola kwatha* (~ten medications) and *Mahavisagsarbha taila* were used to formulate the *Upanaha*. *Kolakulathadi lepa* incorporates drugs such as *Kola* (*Ziziphus jujube*), *Kulattha* (*Dolichos biflorus*), *Suradaru* (*Cedrus deodar*), *Rasana* (*Pluchea lanceolata*), *Masha* (*Vigna mungo*), *Atasi* (*Linum usitattisium*), *Kustha* (*Saussarea lappa*), *Vacha* (*Acorus calamus*), *Satavaha* (*Anethum sow*), *Yava* (*Hordeum vulgare*). Most of these drugs are *Tikshna*~ (sharp in potency) *Guna*, *Ushna*~ (hot in potency) and has *Katu Vipaka* (~pungent action).

The patient was of *Pitta prakriti* (~*Pitta constitution*) which might have set the triggering response.

Sudarshana Ghana Vati [11]. has *Kaleeyaka* (*Santalaum album*), *Musta* (*Cyperus Rotunduss*), *Haritaki* (*Terminalia chebula*), *Guduchi* (*Tinospora Cordifolia*), *Katuki* (*Picrorrhiza Kurrowa*) etc. They are *Lahgu* (~light in action), *Katu* (~pungent in taste), *Tikta Rasa* (~bitter in taste), and *Ushna*

Veerya (~hot in ptpotency). The formulation with potent herbs corrects the imbalance of *Tridosha* and all types of *Jwara* (~fever).

Most of the drugs of *Sutshekhar Rasa* [12]. are having *Tikta* (~Bitter in taste), *Kashaya* (~Astringent taste) and *Madhur rasa* (~Sweet taste) properties which makes it *Pitta Shamaka* (~Alleviates pita) in action. *Madhura rasa* counteracts the *Tikshan Guna* (~Sharp in potency) of vitiated *Pitta* causing soothing effect and pacify *Vata Pitta Doshas* and also relieve *Daha* (~burning sensation).

Shatadhouta ghrita [14]. is *Laghu* (~light in action), *Sheeta* (~cold in potency), *Snigdha* (~unctuous in action), *madhur*~ (sweet in taste), *Ropana* (~wound healing property), *Dahashamak* (~subsides burning sensation), *Vata Pittashamak* (~alleviates vata and pitta).

According to Acharyas, *Aloe vera* is *Kusthavinashini* (~destroys skin diseases). *Vishara* (~fights toxicity) *Jwarahara* (~relieves fever) It also has salicylic acid, which has anti-inflammatory and antibacterial properties. When lignin, an inert substance, is included in topical preparations, it improves the penetration of the other ingredients into the skin. Saponins, which are soapy substances that make up about 3% of the gel, have cleansing and antiseptic properties [13].

The rescue medications were imbibed with *Rakta sodhaka* and *Pitta shamaka* attributes which have worked effectively in combating this adverse drug reaction.

CONCLUSION

This case exemplifies how Ayurveda modalities may work miracles in the management of adverse pharmaceutical reactions without the aid of contemporary system of medicine. The Ayurvedic fraternity is hereby recommended to exercise greater caution while employing this *Upanaha* combination. Following this episode, the patients in department of *Panchakarma* were prescribed newer formulations in lieu of this one to prevent further mishaps. Generally during skin manifestations like this, we typically tend towards allopathy medications such as topical and systemic corticosteroids. However, this instance demonstrates that, in the absence of systemic signs, local ADR can be easily managed by Ayurveda exclusively.

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Conflict of Interest

None declared.

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