JALAUKAVACHARANA AND SARIVADYASAVA IN YUVANAPIDAKA

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INTRODUCTION

Dharmarthakamamokshanamarogyam mulamuttamam ||

Rogastasyapahartarah shreyaso jeevitasya cha |

Pradurbhuto manushyanamantarayo mahanayam ||

Ch. Su 1/ 15-16

The decisive objective of human life is the attainment of the four important aspects- Dharma, Artha, Kama and Moksha. Health is the root cause par excellence for their achievement. When a person is afflicted by a disease entity, he is absolutely incapable of performing any act conducive to the attainment of any of these four objects. We are existing in the twenty first century where man has become his own rival by creating lots of hazardous things like chemicals, urbanisation, and transformation in life style, inappropriate working pattern, pollution, hybridized food material etc. which have an impact on health. Thus Chikitsa, which has a target of maintaining health of an individual, gains a paramount magnitude.

- *Acne vulgaris is a distressing condition which is related to the pilosebaceous follicle, is considered as an adolescent disorder. Though the disease is not a life threatening one, acne can be upsetting and disfiguring as it presents with papular, pustular and cystic lesions more prominently on the face. When severe it can lead to serious and permanent scaring. Acne is such a disease which occurs in young age which is the golden time of the person.*

It is a well known fact that the disease Yuvanapidaka is not that severe which requires hospitalization, but the necessity for treatment is high as it carries a cosmetic importance. In the context of Yuvanapidaka both Shodhana and Shamana chikitsa are explicated in the form of Vamana, Raktamokshana, Lepa, Upanaha and Oral medications. Among these the drugs which consist of Twak doshahara, Vedanahara, Shotahara and Krimighna properties are going to toil well in the disease. Raktamokshana in the form of Jalaukavacharana as a shodhana chikitsa can give an ultimate help in the Raktapradoshajanya disease, Yuvanapidaka.Taking all these into consideration a study was planned to appraise the effect of Jalukavacharana and Sarivadyasava in Yuvanapidaka.

DISEASE REVIEW

Vyutpatti of Yuvanapidaka

- Youvana vyutpatti: youvanam (yuno bhav: an) [3]
- Here youvana means Tarunya or Young
- Pindika – Pind + nwul+ itwam means round swelling.[4]
- These two vyutpaties suggest that Yuvanapidaka is a circular swelling or eruption (papule, pustule, nodule etc.) that develops on the face.

ETYMOLOGY OF YUVANAPIDAKAA

- The word ‘Yuvanapidakaa’ consists of two terms
- Yuvan and Pidaka
- Yuvan: the word Yuvan is derived from the root ‘Yu Dhatu’ by using ‘Kanin Pratyaya’ with it. Here the terminology is used in the sense of adult or young.[5]
- According to shabdakalpadruma Youvvana is the period starting from sixteen years. And after seventy years person is considered to be Vruddha.
- Pidaka: This word is derived from the root of ‘Peed Dhatu’ by using “Dvul+Tap Pratyaya” with it [6]
- “Peed” Dhatu suggests the sense of pain. The meaning of Pidaka is painful eruption.
- Pidaka- stri, (pongyatoti | Pod + khul + taap || Sphotakvishesha: |- Shabdakalpadruma
- The word Pidaka indicates a lesion similar to sphota

- **NIDANA**
- In the brief description available for the disease ‘Yuvanapidakaa’ all the Samhitas have mentioned Kapha, Vata, Rakta, as the causative factors of the disease while Bhavaprakasha mentioned swabhava [35] as the cause of the disease. In Sarangdhara Samhita, Vaktra snigdhata and Pidaka have been mentioned which are produced due to Shukradhatu mala.[36] So it may be concluded that the Swabhava of the particular age, Excess production of Shukra Dhatu and its mala along with the imbalanced state of doshas is the cause of the disease. Here in this condition the main doshas involved are Vata, Kapha dosha and Rakta. So nidanas which vitiate the same are considered here.

- **PURVA RUPA**
- Alpa avyakta lakshanas are reffered as purvarupas in general. Thus symptoms like toda, small pidakas, kandu etc. can be taken as purvarupas.

ROOPA

- There is a mention of characteristics during the brief description of the disease.The Pidaka resembling the Kantaka of Shalmali tree, which are found on the face of the young people due to deranged condition of Kapha, Vata, Pitta and Rakta are called as Yuvanpidaka[41] In another context there is a mention of the time of occurrence which is usually in young people during their adolescence (Yuvan). Interestingly all the authors accepted that this disease occurs in yuvavastha

The Samprapti of the disase is formulated as follows.

Kapha, Vata, Rakta Prakopaka

Nidana

Raktadi & Shukra Vaishamya

Excess of Shukradhatu Mala

Vaktre-snigdhata

Yuvan Pidika

ACNE VULGARIS

- *Acne vulgaris is a common skin condition, caused by changes in pilosebaceous units, skin structures consisting of a hair follicle, associated sebaceous gland, via androgen stimulation. It is characterized by noninflammatory follicular papules or comedones and by inflammatory papules, pustules, and nodules in its more severe form.*

- **EPIDEMIOLOGY**
- Acne is more common during adolescence, affecting more than 85% of teenagers, and frequently continues into adulthood. Being mediated by androgens, it tends to affect boys more than girls although the fact that it affects both helps to illustrate that both sexes have both androgens and oestrogens. It is the ratio that differs. Acne tends to occur in adolescence, when hormones are in a state of flux. In girls it may flare up when they are pre-menstrual. The severity of the problem is probably less related to androgen levels as to end organ sensitivity. For most people, acne diminishes over time and tends to disappear- or at very least to decrease- after one reaches one's early twenties. However, no way to predict how long it will take to disappear entirely and some individuals will carry this condition well into their thirties, forties and beyond.

- ETIOLOGY
- 1) Basic or primary causes
- (2) Predisposing or aggravating factors.
- Family/Genetic history
- The genetic influence on pathogenesis of acne is well documented in twins and genealogic studies. In some types of acne, such as acne conglobata, hereditary factors are more apparent, and a correlation has been suggested between neonatal acne and familial hyperandrogenism. Nodulocystic acne is often observed in relatives of patients with extensive steatocystoma, adolescent and postadolescent acne. Fifty percent of postadolescent acne patients have at least one first-degree relative with the condition. Sebum excretion also correlates with acne susceptibility, and sebum excretion rates are similar in identical twins.

- HORMONES
- Hormones are best known for their effects on sebum excretion. It has also been suggested that hormones may play a role in the follicular hyperkeratinization seen in follicles affected by acne.
- To summaries this there is strong clinical and experimental evidence that androgens stimulate the proliferation of sebaceous glands and sebum secretion. Acne is associated with systemic circulating hyperandrogenism. In acne subjects with normal circulating levels of androgens there may be a local or in situ excess production of androgens or imbalance of androgen metabolism. Acne subjects with normal circulating or local levels of androgens may be 'hypersensitive' to androgens either due to an increased number of androgen receptors or abnormal postbinding response.
- Estrogens and Sebum Production:
- Growth Hormone, Prolactin and Acne

- Growth Hormone, Prolactin and Acne
- It has been hypothesized that growth hormone may be involved in the development of acne. Acne is most prevalent in adolescents during a time when growth hormone is maximally secreted and serum levels of IGF-1 are at their highest. In addition, IGF-1 can be locally produced within the skin where it can interact with receptors on the sebaceous gland to stimulate its growth. Furthermore, conditions of growth hormone excess, such as acromegaly are associated with seborrhea and the development of acne. In some tissues, the actions of IGF- 1 can be mediated by androgens. It is possible that androgens may influence IGF-1 action in the sebaceous gland as well. Acne can also be exacerbated by hyperprolactinemia.
- Steroids:

BACILLARY INTERFERENCE

Basically acne is not a bacterial disease primarily but the exude squeezed out from the comedone may show the presence of bacilli. These comedone contains an acne bacillus, cornyebacterium acne or propionibacterium acne.The acne bacillus is a small, thin, micro aerophillic organism belonging to the diptheroid group. It is generally considered as the cause of acne. It enters at the orifice of the sebaceous gland and is responsible for the formation of comedone and large lumpy deep lesion. Microscopically, the deep-seated indurated lesion shows a granulomatous structure with many gaint cells.

ALLERGIC MENIFESTATION :

Allergy also has an influence for the formation of Acne lesion up to certain extent. The person working in the manufacturing industries, catering works and those dealing with oils may have some acne type of lesion. Excessive exposé or intake of Bromides and iodides as tonic or medicine or diet causes acne form lesion. If these salts of Bromide and iodide are discontinued, the lesions are subsides. Chloracne is particularly linked to toxic exposure to dioxin, namelychlorinated dioxins.

- **2) PREDISPOSING FACTORS**
- These factors do not produce the acne but prepare the floor to the acne production. These create some conditions in the body, favoring to the acne occurrence.
- They are-
- Diet – diet is not likely to affect acne vulgaris appreciably but most of the dermatologist has mentioned certain components of diet which may play an aggravation or production of acne. Butter, Cream, Ice cream, Chocolates. Fried foods, Fats, Excess starches, Sweets, Greasy dishes, overeating, Alcohol etc. aggravate the condition.
- Climate
- Use of cosmetics

- Mental stress
- In girls there is usually premenstrual exacerbation of lesions. About 70% women complain of a flare 2-7 days premenstrual. Possibly it is related to a premenstrual change in the hydration of the pilosebaceous epithelium. Questionnaire studies have shown that many acne patients experience shame (70%), embarrassment and anxiety (63%), lack of confidence (67%), impaired social contact (57%) and a significant problem with unemployment. Severe acne may be related to increased anger and anxiety. The stresses causes excess secretion of androgens and subsequently lead to acne.

- Occupation –
- Constipation
- Season
- Cigarette Smoking

  A recent study indicates that acne is more frequent in smokers. The Maximum frequency of acne lesions was noted between 14 and 29 years. The maximum risk of acne is obtained by the association of three factors: active smoker + male + young subject.
- Oral Contraceptives-
- A recent study described the prevalence rate of acne among adolescents with allergic disease and studied the possible influence of oral contraceptives and tobacco smoking on disease prevalence.

- **ACNE PATHOGENESIS** [75]
- *The major alteration in the acne where sebaceous gland undergoes hypertrophy and increase the production of sebum under the influence of androgenic hormones. The postulated pathogenesis described here.*

- TYPES OF ACNE
- Types of acne can be categorized under two headings
- Age wise distribution of Acne
- Clinical type of Acne

- Neonatal Acne

Neonatal acne is present at birth or appears shortly after. It is more common than fully appreciated; if the diagnosis is based in a few comedones more than 20% of newborns are affected. The most common lesions are comedones, papules and pustules. They are few in number and usually localized on the face, more often cheeks and forehead. Involvement of the chest, back or groins has been reported. Most cases are mild and transient. Lesions appear mainly at 2–4 weeks healing spontaneously, without scarring, in 4 weeks to 3–6 months. Neonatal acne has been suggested to be more frequent in male infants.

- Infantile Acne
- Infantile acne (IA) usually starts later than neonatal acne, generally between 6 and 9 months (range 6–16 Months). It also presents a male predominance. Lesions are localized on the face with the cheeks being the area most affected.
- Occasional cases of Conglobate acne can be seen; they occur primarily on the face and the clinical picture is exactly like the adult version. The course is variable. Some cases disappear in 1 to 2 years but others are persistent and resolve at the age of 4–5 or persist until puberty. Infantile acne, especially conglobate infantile acne, may be related with severe forms of the disease in adolescence. A family history of severe acne can be present. The exact cause of IA is not clear. There is one case described with elevated levels of LH, follicle-stimulating hormone (FSH), and free testosterone due to an abnormality of the hypothalamus.

- Mid-Childhood Acne
- This type of acne occurs between 1 and 7 years of age. Acne is very rare in this group and when it occurs should be evaluated for hyperandrogenemia. Differential diagnosis includes Cushing's syndrome, congenital adrenal hyperplasia, gonadal or adrenal tumors and a true precocious puberty. Mid-childhood acne can be confused sometimes with keratosis pilaris of the cheeks and with keratin cysts (milia) particularly when they get inflamed. Both lesions are common in atopics.
- Prepubertal Acne
- Excessive androgen production may result due to adrenal hyperandrogenism (exaggerated adrenarche, exuberant production of adrenal androgens relative to cortisol), congenital adrenal hyperplasia, Cushing's disease, 21-hyroxylase deficiency, and more rarely androgen producing tumors. Ovarian contribution to androgens can be through tumors (malignant and benign), but most commonly due to polycystic ovarian disease associated very often with obesity, persistent or resistant acne and insulin resistance. Acne could be the first sign of pubertal maturation and associated with increase in sebum and urinary excretion of androgenic steroids. Mid-pubertal girls with severe comedonal acne showed more comedones even three years before menarche. The onset of menarche was also earlier in cases with severe acne and associated to higher levels of serum DHEAS and total and free testosterone compared to girls with mild-to-moderate disease. Adverse effects of certain drugs (corticosteroids, anticonvulsants, etc.) and sporadic cases of prepubertal hydradenitis suppurative must be considered.

- Adolescent Acne
- *Main Factors Influencing the Frequency of Adolescent Acne*
- Two main factors have to be considered: Age and sex. The frequency of acne in the population increases with age. Combined with age, gender is an important factor modulating the frequency of acne lesions. Thus, Rademaker et al Have shown that among the girls 61% had acne lesions at 12 years and 83% at 16 years with a maximum between 15 and 17 years. Among the boys, the prevalence of acne was only 40% at 12 years but increased to 95% at 16 years with a maximum of frequency between 17 and 19 years.
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- Post menopausal Acne
- A postal survey was sent to 173 adult pre-menopausal women treated for acne between 1988 and 1996 in the USA . 91 (52%) answered; all of them had received spironolactone at some point during the course of their treatment. The mean duration of acne was 20.4 years. Acne was reported to be persistent in 80% of the women and 58% of them had an ongoing need for treatment. In this selected population, acne in adult women was particularly persistent and desperately recurring.

- **CLINICAL TYPES OF ACNE:** [76,77,78,79]
- There are 6 types of acne found commonly. These types are as follows
- (1) Acne punctata
- (2) Acne papulosa
- (3) Acne Pustulosa
- (4) Acne indurata
- (5) Acne cystic
- (6) Acne macule
- (7) Acne keloidal.

- **Acne punctata – *(comedones)***

If the cruption is made up entirely of small comedones or block heads and is located upon the forehead or cheeks. The comedones are generally asymptomatic, and proceed not to the pustular forms.

- Missed Comedones[80]
- In all patients, it is essential to stretch the skin, using a good light, at a shallow angle; otherwise even ordinary comedones will not be recognised. Stretching of the skin will demonstrate, in about 20% of patients, comedones which would otherwise not be seen.
- Sandpaper Comedones
- Patients with these comedones represent a difficult subgroup who present with predominantly very small, almost confluent closed comedones giving the feel of ‘sandpaper’ which may become inflamed. They are particularly seen on the forehead and are difficult to treat.
- Submarine Comedones
- These are also easily missed and therefore there is a need to stretch the skin. They infrequently present as a focus of continued inflammation. Surprisingly quite large and may reach a size of up to1 cm. Treatment is difficult.
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- Macrocomedones
- Drug-Induced Comedones
- These may be due to corticosteroids or anabolic steroids and ‘blue comedones’ can occur, albeit very infrequently, due to minocycline-induced pigmentation. Treatment of drug-induced comedones is by removal of the cause and by treating with either topical retinoids or gentle cautery.
- **Naevoid Comedones**
- These are rare and may present before puberty but more often at and around puberty. The lesions may be typical confluent comedones or whiteheads, usually occurring asymmetrically. They may be localised or, in some unfortunate individuals, extremely extensive. Treatment is difficult. Response to oral and topical retinoids is unsatisfactory.
- Conglobate Comedones
- Patients with conglobate comedones are predominantly males with extensive truncal acne characterised by severe nodular inflammation and scarring. A hallmark of the disease is grouped comedones, particularly on the posterior neck and upper trunk. The comedones may be blackheads, whiteheads or both.

- ***(2)*** **Acne papulosa -**
- Small papular acne is frequently associated with profuse no of large comedones which have become inflamed probably from the acne bacillus. This type of acne is most common in males with coarse, oily skin. It yields redialy to x-ray treatment combined with local medicinal measures. Below photo shows
- ***(3)*** **Acne pustulosa -**
- This is a type of small superficial pustular acne which is principally staphylococcus dermatitis. Occurring infrequently in young girls with delicate skin. A pustule that forms over a sebaceous follicle usually has a hair in the center. Acne pustules that heal without progressing to cystic form usually leave no scars. There are practically no comedones associated with eruption. This picture shows pustule, papule and comedones
- papuls and comedones.

- ***(4)*** **Acne indurata –** ***(nodule)***
- Papular acne often progresses into indurata type due to secondary staphylococcus infection.
- The lesions are deep seated and destructive and may be popular and mixed. This type is characterized by rather firm perifollicular nodules of bluish red colour. Many of them eventually become completely or partially absorbed other transform into cysts. If the eruption has been present for some length of time scarring is often severe. This picture shows the macular lesions.
- **Acne cystica -**
- Uncommonly acne indurata may develop into cysts. The cysts are a form of tissue reaction about small, hard deposits of sebum; which act as like foreign body. The contents are jelly like of granular and serosanguineous fluid. Although the cysts are of a sebaceous origins and apparently identical with wens (Sebaceous cyst) either because of their different types of contents, being rarely cheesy. The cysts also tend to persist, discharging from time to time a thin purulent fluid.

- **(6) Macule**-
- Macule is the temporary red spot left by heald acne lesion. Usually it is flat, red or red pink, with well defined border. It may persist for days to weeks before disapearing. If many number of acne on the face one time they can contribute to the “inflamed face” appearance of face.
- ***(7)*** **Acne Keloidal -**
- This is a type of acne with hypertrophic scarring. Hypertrophic scars are rarely encountered on the face they are more frequent on the chest and back of neck. Occasionally these scars become keloidal. The condition is known as keloidal acne.

MATERIALS AND METHODS

Objective of the study

- *To carry out a comprehensive literary study on Yuvanapidaka.*
- *To evaluate the efficacy of Jalaukavacharana and Sarivadyasava in the management of Yuvanapidaka.*

Source of data –

20 patients diagnosed as Yuvanapidaka from OPD and IPD of S. D. M. Ayurveda Hospital, Udupi, Karnataka, were selected for the study according to the diagnostic criteria.

These patients were treated with Jalaukavacharana weekly once for four weeks and oral administration of Sarivadyasava 25ml TID from day one for a period of 28 days.

Inclusion criteria –

- *Patients between the age group of 16-40yrs.*
- *Patients presenting with cardinal features like Shalmali Kantakakara, Toda and Ghana Yuvanapidaka*
- *Patients fit for Raktamokshana.*

Exclusion criteria –

- *Bleeding tendency disorders.*
- *Diabetes mellitus*
- *Acne Rosacea*
- *Sycosis barbae.*
- *Staphylococcal boils.*
- *Gram negative folliculitis.*
- *Pregnancy and lactation.*

STUDY DESIGN

- *Single blind clinical study with pre test and post test design is adopted.*

Intervention- *All the 20 patients were subjected to Raktamokshana with Jalauka weekly once for a period of 28 days with all precautionary measures and Sarivadyasava orally in a dose of 25 ml TID from day one for 28 days.*

- *In present study a total of 20 patients suffering from Yuvanapidaka fitting into the inclusion criteria were taken. All these 20 patients who were registered have completed the stipulated schedule of the study. The patients were selected irrespective of age, sex, and their caste. Following are the observation and the results as well as detailed descriptive statistical analysis of the patients included in the study which is elaborated in the following headings.*
- *Descriptive statistical analysis of the patients*
- *Analysis of the therapeutic effect of Jalaukavacharana and Sarivadyasava in patients of Yuvanapidaka.*
- *Assessment of the significance of the treatment by adapting the paired 't' test.*

ASSESSMENT CRITERIA

- *The cardinal features of Yuvanapidaka like shalmali kantaka akara, Kandu, Toda,Ghana,Srava, Number of Pidaka, Severity of lesion , Extent of lesion and Size of pidaka were graded and assessed accordingly.*

- *The list of etiological factors for Yuvanapidaka has not been mentioned. Based on the doshas involved Kapha, Vata, and Rakta prakopaka nidanas can be considered. All the authors have referred Kapha and Vata to be the vitiated factors in the disease. Pitta has not been mentioned and the changes occurring in the skin have been attributed to Rakta dusti. The stagnation of Meda is explained by the term Medogarbhita pidaka. Along with this the increase of Twak sneha is quoted. These two things together help to explain the excessive oily secretion in patients of Acne. Terms like swabhava and increase in Shukra mala explained in the disease gives the information about the physiological increase of hormones during puberty and early adult hood which in turn is responsible for the disease.*

- ***Probable mode of Action***

  Leeches sucks the blood from the selected area when applied over the pathogenic area because the leeches sucks the vitiated pathogenic material. Hence, it can be said that leeches give best effect in Yuvanapidaka expelling the morbid, Vitiated Dosha, and Dhatus. But the effect of the therapy is attained not only due to expelling out but at the same time the leeches release some of the enzymes into the superficial layer of the skin. So Jalaukavacharana has also provided Normalization and enhancement of capillary as well as collateral blood circulation, Expressed anti- inflammatory and antibiotic effect, works as an Immune- Stimulant and immune modulating effect, andEarly wound healing effect.

- *Sariva is considered to be the best Raktashodaka, Prasadaka dravya. In addition the Shulahara effect of Amalaki, Nyagrodha, Aswath,Shati, Guduchi,Yavani, Patra and Haritaki helps in reducing the cardinal feature toda of the disease. Drugs like Sariva, Mustaka,Nyagroda, Ashwatha, Ananta, Shati, Padmaka,Usheera,Rakta chandana,Yavani, Kustha and Swarnapatri have the Shotha hara properties which will helps in relieving the erythema in the disease. Nyagrodha, Lodhra, Ashwatha, Ananta,Haritaki, Draksha and Patha have the vrana ropana properties. There are also drugs like Ananta, Rakta chandana which have the Daha hara action. The Anti- Bacterial, Anti-Microbial action is attributed to the essential oils of Mustaka, and krimighna property is told for Padmaka, Guduchi, Sweta chandana,Kustha,Draksha, Patha and Guda. Sarivadyasava mentioned in the Prameha Pidaka adhikara is explained to be helpful in all varieties of Twakgata pidakas produced due to Vata and Rakta vitiation.*

Discussion on observations during study:

Age:

According to Age wise distribution of 20 patients suffering from the Yuvanapidakaa, Maximum no of patients i.e. 95% were in age group of 16-30 years, 5% of patients were from 31-45 years of age group. The age between 16-30 is Vivardhamana Dhatu gunaavastha, specially the starting period of functional state of Shukradhatu (abhivyakti and vridhi). This is also the age of predominance of pitta and Shukra dhatu, along with consumption of unbalanced food, altered mode of lifestyle, which causes the vitiation of Dosha and Doshya. Modern medical science considered hormonal imbalance, specifically androgen imbalance as one of the important causative factor for the acne, which stimulates the sebaceous glands to produce the excess amount of sebum, by the age of 25 years the maturity level of hormones is attained. In females, major hormonal changes take place during the menarche; though the occurrence of the acne may be a little less than males.

Symptoms:

Cardinal symptoms are Shalmali kantakavat pidaka, Ghanata and Toda which are predominantly (100%) observed in all the patients. During local examination of the lesion the Pidakas are firm to touch which is due to Kapha dosha associated with stagnation of Medodhatu. The term Shalmali Kantakavat pidaka refers to a firm Papular lesion which will include Papular, Pustular and Cystic lesion of Acne vulagaris. Other than the pratyatma lakshanas explained in text, Shotha in the form of erythema around the lesion, Srava as discharge due to the sponatneous repture of the lesion, Kandu, and Daha is produced due to the inflammation in the lesion have been observed in the sample. These associated symptoms observed are either due to involvement of Rakta or kapha dosha.

Chronicity:

Acne is such a disease which may begin in early age and persist for too many years. Ayurveda gives ample importance to chronicity of the disease to decide the prognosis and response to treatment. If not treated early, it will need aggressive treatments like Shodhana and shamana medication for longer duration. In this clinical study maximum patients gave long years of history of the disease.

Diet:

Observing the dietary habit of the patients in this study, maximum no of patients were having mixed (90%) food habit as the mixed diet pattern was common in the surrounding area. The high consumption of oily substances vitiates the medo dhatu and kapha, where as excessive intake of tikshna and irritant food vitiate the Pitta, rakta and Vata dosha. Thus these factors may influence the disease indirectly.

Nidana:

Almost all the patients in the study are exposed to one or more causative factors during their day to day food habits such as, consumption of fried foods, Junk foods, curd, oily food stuffs, milk, spicy food, bakery products etc. These are also observed to be the aggravating diet for the lesions. As such the disease Yuvanapidaka is produced due to vitiation of Kapha, Vata, Rakta and Meda, and above said factors are more Kapha prakopaka, Medovardhaka, Vata prakopaka in nature. They ultimately hamper the equilibrium state of Dosha, vitiate the rakta and lead to development of Yuvanapidaka

Prakriti:

During clinical study maximum number of patients observed Dwandawaja prakriti. Highest number of patients belongs to Kapha, Pitta prakriti (60%), Kapha, Vata (25%), 10% patients Kaphaja prakriti and 5% patients was Vataja prakriti. So disease can occur in all type of prakriti. The important thing is to observe here is that the clinical prasentation of Yuvanapidaka had predominant dosha of that particular Prakriti.

Jalauka:

Calculating the number of jalauka needed for 20 patients i.e. 4 jalaukas for each patient, a total of 80 Jalaukas were needed. Two Jalaukas were taken for one sitting for each cheek as that was the area of maximum affliction. For the second sitting, again two fresh Jalaukas were used. But later it was observed that few Jalaukas died in between the treatment after the application, reason of which was not ascertained. Fresh Jalauka were used for each patient as transmission of infective diseases was not been disproved by leech application, therefore to avoid the risk precaution was taken.

On an average 35-45 minutes were taken leech for sucking blood in each sitting. 35 -40 gram of blood was sucked during jalaukavacharana by the leeches in each sitting.

During application no untoward effects were seen in the patients in the application site on the day or during subsequent follow ups. No scar remained on the site of application.

Effect of treatment:

Size of Pidaka:

- The initial score on Size of the Pidaka were **1.9 (±0.788)** which was reduced to **0.25(±0.444)** only after the fourth week . Patients who had lesions < 2mm had a response in the first week itself. When the size was >5 mm they responded only after third week. As in more patients size of the Pidaka was 2-5 mm the response was at the end.

Number of Pidaka:

The mean initial score on Number of Pidaka were **2.4 was reduced to 0.45** after the treatment. Patients who presented with lesions >20 in number responded only after the third follow up. In the first two follow up the number of the lesions reduced. 4 Patients who had highest number of lesions (>50) responded only during the follow up period. Overall effect of the treatment on the number of pidaka was highly significant. Patient who had Cystic type of Acne responded a bit late in the third and fourth week. Four among the twenty patients having such lesions got the response only during follow up.

- ***Symptoms*** *--Patients found very good relief in Tenderness immediately after the first week and Symptoms like Hardness, Itching, Burning and Discharge also got a good relief in the subsequent sittings in the patients during treatment.*
- ***Tenderness****--The score of tenderness markedly reduced from a mean of* ***1.4*** *to* ***0.65*** *i.e. after one sitting of Jalauka and Shamana treatment which shows the immense help of the treatment in reducing the inflammation in the lesions. At the end of the treatment score reduced to* ***0.05****. Almost all the patients had a complete relief from this feature.*

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- ***Hardness*** *--Before the treatment the score was* ***1.3*** *which reduced to* ***0.7*** *in the first week and later* ***0.25*** *in the third week. This feature took a bit more time for complete reduction. The hardness in the Pidaka is due to the consisted meda within it, thus a delay in the dissolution. The kaphahara action of musta and patha like drugs in the shamana formulation has helped here.*

- ***Swelling***

  *The initial score of swelling which was **1.7** reduced to **1.3** in the first week and **0.25** in the last week course. Application of Jalauka has helped in reducing both swelling and tenderness drastically.*

- ***Itching***

  *A highly significant result was observed in itching reduction from **0.9** to **0.05** on third week. Property of Rakta shodhana of Jalauka and twak dosha hara, kapha hara action of sarivadyasava has done their job here.*

- ***Srava and Daha***

  *Reduction of srava was from **0.75** to 0% after the treatment. Daha reduced from **0.45** to **0.05**. Both results were highly significant and it can be attributed to the action of Jalauka and ropana, dahahara and shothahara action of sarivadyasava.*

- *Extent of lesion*

  3.45 *were the initial score which reduced to* ***0.8*** *in the last week which showed a highly significant result. Patients having one quarter and half of the face involvement had early response to treatment in the second and third sitting itself. Patients having three quarter face involvement had response only in the follow up due to the more time taken for the expulsion of doshas in such patients.*

- *Severity of lesions*

  Severity had a initial score of ***2.65*** *which came down to* ***0.35*** *in the fourth week with a highly significant response. Maximum of patients (45%) had grade 3 types, who responded in the second or third week of treatment. Milder ones responded in the first week itself. The more severe presentation (grade 4) of Acne patients responded late in the fourth sitting and also during follow up. Those patients had excessive vitiation of doshas and dosha alleviation took a total of one to two months of time.*

Overall assessment

In this clinical study on 20 patients 50% of them had a comlete relief, 40% moderate improvement and 10 % had minimum response. There were none in the no improvement group. This shows that the combination of jalaukavacharana and Sarivadyasava had a very good effect in the disease Yuvanapidaka. Response had begun in the very first week which continued in the next three weeks. None of the patients had a recurrence in the follow of period of one month.

Conclusion

- *The Kapha and Vata dusti explained in the disease Yuvanapidaka is proved by the different symptoms presented in the patients of this study.*
- *The term Yuvanapidaka indicates the prevalence of the disease in the youvana stage of the madhyama avastha is also observed in the present clinical study.*
- *The cardinal feature of the disease, Shalmali kantakavat Pidaka, Toda and Ghana Pidaka were observed in all the 20 patients.*
- *The combination of Sarivadyasava and Jalaukavacharana showed a statistically highly significant response in reducing the symptoms and signs of Yuvanapidaka.*
- *The more severe patients of Yuvanapidaka showed the late response.*
- *No untoward toxic effects were observed during and after treatment.*


THANK YOU