ABSTRACT

The Prana and Udana Vayu are responsible for normal functioning of praanvahasrotas, which can be altered due to causative factors in turn lead to manifestation of Kasa which is characterized by these lakshanas: Shuska gala, Shuskakasa with shuskaalpakapha, Swarbheda, Parshav Shool, Shriashool, Urbhool, Dourbaliya etc. Paediatric age groups are more prone to respiratory tract infections, immunological concerns, and social factors such as school attendance, incorrect eating, and eating habits due to anatomical and physiological characteristics. Ayurveda has a lot of drugs to cure respiratory disorder. So this case study was conducted and get the positive result in treatment.

AIM: To evaluate the efficacy of ayurveda management on vatajakasa.

Study Design: Single Case Study

Place: Parul Ayurved Hospital, Parul University, Limda, Vadodara, Gujarat.

Duration Of Study: 14 days and follow up after 7 days.

Methodology: Internal medication to reduce the sign and symptoms of vatajakasa.

As a result, this article addresses the problem using Ayurvedic treatment methods like Aparajit Avaleha, which delivers a safe and effective solution.
1. INTRODUCTION

Ayurveda is the Indian science of how to create a long and healthy life [1]. Ayurvedic medical science is one of the world’s oldest holistic healing systems [2]. Science of Ayurveda has evolved from the contemplative minds of ancient seers for the intention to heal all the humanity [3]. It deals with the dynamic changes and effects, which occurs in the body and explains methods to manage these changes. Disease can be caused by two factors internal and external, with external contributing to over 80% [4]. Outside factors include mostly infections and infestations, allergens, food and environment. Main internal factors include body immunity, genotypic susceptibility and physiological state of peculiarities at different stages of life [5].

The Prana and UdanaVayu are responsible for normal functioning of praanvahasrotas, which can be altered due to causative factors in turn lead to manifestation of Kasa. Vatajakasa which is characterized by these lakshanas Shuska gala, Shuskakasa with shuskaalpakapha, Swarbheda, ParshavShool, Shriashool, Urashool, Dourbalyaetic [6].

Respiratory system is always in contact with the external environment from birth until death, so it is highly vulnerable to infections and in most circumstances is considered the primary victim of hyper-sensitization. In developing and developed countries around the world, Respiratory Tract Infections (RTI) reports for over 50 percent of patients attending paediatric OPD [7].

Cough is the reflex action to clear your airways of mucus and irritants such as dust or smoke. Common causes of cough are upper and lower respiratory tract infection, allergic rhinitis, bronchitis, pneumonia, hay fever, asthma, COPD, Tuberculosis. Dry cough means it is tickly and doesn’t produce any phlegm (thick mucus). Dry cough includes shortness of breath, fatigability, sore and dry throat, heartburn, pain in flank region, dryness of mouth and throat, hoarseness of sound. Prevalence rate of cough is 9% in school going children worldwide. In India, mortality rate due to respiratory system disorders is increasing which is also, one of the six major categories of death and on the third position [8].

1.1 Aim and Objectives

To evaluate the efficacy of ayurvedi management on vatajakasa

1.2 Objective

1.2.1 Primary objective

To find efficacy of AprajitaAvaleha in management of vatajakasa

1.2.2 Secondary objective

To find ayurvedic cure in respiratory disorder.

2. CASE DESCRIPTION

On 24/02/2020, a male patient aged 12 years, OPD reg. no. 20004991, visited OPD of Kuamarbhritya, Parul Ayurved hospital, with ShushkaKasa (dry cough), Shuska Gala (dry throat), Swarbheda, Parshavshool and frequent waking at night due to coughing. They took medicine from nearest medical centre but did not got relief. So, they presented to OPD of Kuamarbhritya, Parul Ayurved hospital for management of symptoms of ShuskaKasa (dry cough).

3. HISTORY OF PRESENT ILLNESS

Apparently patient was healthy before 6 days he gradually acquired some bout of dry cough in the night and day with dry throat, Parshavshool and swarbheda. The patient was unconcerned about it and ignored it, but after some time, his mother noticed continuous bouts of dry cough with some roughness in his voice. After that patient’s parents took her nearby hospital. There he was diagnosed with dry cough (vatajakasa) and given suitable medicine to him. Patient took 4 days of treatment but he didn’t get full relief. In order to get a suitable solution for above said complaints they visited our hospital ParulAyurved hospital for further management.

Associated Symptoms: Dry mouth and dry throat from 4 days

Past History: No any history of allergic disorder, any metabolic disorder, Asthma, TB.
Family History: Her grandmother was suffering with allergic bronchitis. She expired 3 years back.

Immunization Status: Immunized as per WHO schedule.

Personal History:
- Bowel: Constipation
- Urine: approx. 1300 ml /Day
- Sleep: Sound
- Krida: Outdoor

Social History -
- Residential Area: Rural
- Personal Hygiene: Poor
- Sanitation: Poor
- Drinking Water: Tubewell
- Family: Joint
- Behaviour: Normal

Developmental History:
- Gross Motor: Achieved
- Fine Motor: Achieved
- Personal And Social: Achieved
- Language: Achieved
- Toilet Training: Achieved

Dietetic History: Vegetarian diet

A) General examination:
- GC: Fair
- BP: 100/60 mm of hg
- Height: 145 cm
- Weight: 28 kg

Assessment Criteria:

Subjective Parameters:

Table 1.

| Parameters         | DOSHA     | Vata      |
|--------------------|-----------|-----------|
| DUSHAYA            | Rasa      |           |
| ADHISTHANA         | PranvahaSrotus |         |

B) Systemic Examination:
- Respiratory System: AEBE Normal
- Cardiovascular System: S1S2 Normal
- GIT System: P/A Soft And Non Tender
- Central Nervous System: Patient Was Conscious And Oriented

Local Examination:
- Pallor: Absent
- Jaundice: Absent
- Clubbing: Absent
- Lymphnodes: Not Palpable
- Skin: Normal
- Hair, Nails: Normal

4. MATERIAL AND METHOD

Centre of Study: This study was carried out in Kaumarbhritya department of PARUL AYRVED HOSPITAL, LIMDA, VADODARA.

Study Design: Simple and Single Case Study.

Samprapati Ghataka:

Table 2.

| Parameters                                      | Grading                                                                 |
|------------------------------------------------|------------------------------------------------------------------------|
| 1. KASA VEGA                                    | Grade 0: absent                                                        |
|                                                | Grade 1: 1-5 episodes in a day                                         |
|                                                | Grade 2: 2-10 episodes in a day                                        |
|                                                | Grade 3: more than 10 episodes in a day                                |
| 2. SWARBHEDA                                    | Grade 0: absent                                                        |
|                                                | Grade 1: present                                                       |
| 3. SHUSKA MUKHA AND GALA (DRYNESS OF MOUTH AND THROAT) | Grade 0: no dryness                                                |
|                                                | Grade 1: mild thirst                                                  |
|                                                | Grade 2: thirst can be controlled                                     |
|                                                | Grade 3: thirst that cannot be controlled                             |
4. SHIRASHOOL, PARSHVASHOOL AND UROSHOOL

Grade 0: No Pain
Grade 1: Pain present only during coughing
Grade 2: Pain present intermittently, irrespective of cough, not affect routine work
Grade 3: Pain present continuously, irrespective of cough, affect routine work

5. TIME TO RELIEF FROM COUGH AND THROAT IRRITATION

| Grade | Description |
|-------|-------------|
| 0     | Relief within 0-15 min |
| 1     | Relief within 16-30 min |
| 2     | Relief within 31-60 min |
| 3     | Relief > 61 min |
| 4     | No relief |

5. COUGH SYMPTOMS SCORE (CSS): DAY TIME

| Grade | Description |
|-------|-------------|
| 0     | No cough during day |
| 1     | Cough for one short period |
| 2     | Cough for more than two short periods |
| 3     | Frequent coughing which did not interfere with usual daytime activities |
| 4     | Frequent coughing which did interfere with usual daytime activities |
| 5     | Distressing coughs most of the day |

5. COUGH SYMPTOMS SCORE (CSS): NIGHT TIME

| Grade | Description |
|-------|-------------|
| 0     | No cough during night |
| 1     | Cough on waking only |
| 2     | Wake once or early due to cough |
| 3     | Frequent waking due to coughs |
| 4     | Frequent cough most of night |
| 5     | Distressing coughs preventing any sleep |

Objective Parameters:

Table 3.

| Parameter | Description |
|-----------|-------------|
| CBC       | Complete blood count |
| AEC       | Acute eosinophil count |

Treatment:

Table 4. line of treatment [9]

| Day    | AparajitAvaleha |
|--------|-----------------|
| 0th Day| 10 gm In Three Divided Doses AF |
| 7th Day| 10 gm In Three Divided Doses BF |
| 21st Day| Follow up period |

Medication has given to the patient for 14 days with 1 follow up after 7 days done on 21st day. Aparajit Avaleha [10] given to the patient for reducing the above said sign and symptoms of vatajakasa.

5. OBSERVATION AND RESULTS

Regular oral use of AparajitAvaleha was observed. Which help in reducing the sign and symptoms of vatajakasa (dry cough).

6. DISCUSSION

6.1 Aparajit Avaleha

- Aparajit Avaleha contains Sati, Karkatshringi, Pippali, Bharangi, Nagarmotha, Yavasa, Tilataila and Guda (jaggery), in which Sati [12] has anti-inflammatory, anti-asthmatic and Aromatic properties. These properties help this Avaleha in relieving the symptoms like swelling, breathing difficulty and better smelling is easy to take Avaleha by children. Krimi Ghana, UsnaVirya and Vatasamaka property provide relief in Vatajadoshasamana, kasa and kill microorganisms responsible for Kasa.

- Karkatshringi [13,14], has properties like relief in thirst, Parshavshool, loss of appetite and also provide relief in
breathing difficulties. UshnaViry help in vatadosha.

- **Pippali** [15,16,17] has anti-inflammatory, antibacterial, antispasmodic, and Immuno-stimulator properties. These properties help this Avaleha in relieving the symptoms like swelling, breathing difficulty, spasm of respiratory system and in boosting immunity of body. Krimi Ghana, UsnaVirya, Madhura Vipaka and Vatasamaka property provide relief in Vatajadoshasamana and kill microorganisms responsible for Kasa.

- **Bharangi** [18,19,20] has anti-inflammatory, antibacterial, antispasmodic, anti-allergic and expectorant properties. These properties help this Avaleha in relieving the symptoms like swelling, breathing difficulty, spasm of respiratory system, swarbhedha and in boosting immunity of body. UsnaVirya, Vatasamaka property provide relief in Vatajadoshasamana, kasa and kill microorganisms responsible for Kasa.

- **Nagarmotha** [21,22,23] has antipyretic, dipana and pachana which cures fever and improves appetite and digestion.

- **Yavasa** [24,25] has anti-inflammatory, analgesic, anti-pyretic, thirst affection and expectorant properties. These properties help this Avaleha in relieving the symptoms like swelling, fever, shiroshool, parshavshool, uroshool, shuska gala and mukha. Madhura rasa and vipaka and guru, snigdhaguna provide relief in VatajaDosha and Kasa.

- **TilaTaila** [26,27,28] have properties snigda, usna, madhura, guru and Guda have properties madhuravipka and ruchya in nature. These properties help in vatadoshasamana and easy to digest and makes avaleharuchikarka.

### Table 5. Observation during treatment (Subjective Parameter)

| SYMPTOMS                  | GRADING | 0\(^{th}\) DAY | 7\(^{th}\) DAY | 14\(^{th}\) DAY |
|---------------------------|---------|----------------|----------------|---------------|
| Sushkakasa                | 2       | 1              | 0              |               |
| Swarbheda                 | 1       | 0              | 0              |               |
| Parshavshoola             | 1       | 0              | 0              |               |
| Shirashoola               | -       | -              | -              |               |
| Shushkamuka and gala      | 2       | 1              | 0              |               |
| Crepitation and wheezing  | -       | -              | -              |               |
| Time to relief in cough and throat irritation [11] | 4 | 2 | 0 |
| Cough symptoms score [11] |         |                |                |               |
| Day time                  | 1       | 1              | 0              |               |
| Night time                | 3       | 2              | 0              |               |

### Table 6. Observation Bt-At treatment (objective parameters)

| INVESTIGATIONS               | BT        | AT        |
|-----------------------------|-----------|-----------|
|                            | 0\(^{th}\) DAY | 14\(^{th}\) DAY |
| Hb%                         | 11.1 gm/dl | 11.3      |
| AEC                         | 568       | 356       |
| ESR                         | -         | -         |
| TOTAL WBC (CELL,MM\(^3\))  | 12,400    | 8700      |
| DIFFERENTIAL COUNT (%)      |           |           |
| NEUROPHILS                  | 75        | 48        |
| EOSINOPHILS                 | 18        | 16        |
| BASOPHILS                   | 4         | 4         |
| LYMPHOCYTES                 | 3         | 2         |
| MONOCYTES                   | 0         | 0         |
Table 7. Symptomatic Relief

| Symptoms                                      | Percentage |
|-----------------------------------------------|------------|
| SUSHKA KASA                                   | 100%       |
| SWARBHEDA                                     | 100%       |
| PARSHAVAL SHOOLA                              | 100%       |
| SHIRSHOOLA                                    |            |
| SHUSHKA MUKH AND GALA                         | 50%        |
| TIME TO RELIEF IN COUGH AND THROAT IRRITATION | 100%       |
| COUGH SYMPTOMS SCORE                          | 100%       |
| DAY TIME                                      | 100%       |

**Percentage Relief in Symptoms**

Fig. 1. Graphical presentation of symptomatic relief

**Probable Mode of Action of Aparajit Avaleha**

- Ushna property of Shati, Karkatashrimi, Bharangi, Pioppil
- Vatanulomana + Shothahar, Karma + Srotas vivarans
- Relief in pain
- Analgesic, Anti-inflammatory, bronchodilator effect of Shati, Karkatashrimi, Bharangi, Musta Anti-migraine effect of Yavasa
- Aampeshana drugs Musta and Pioppil
- Sroteavrodhushak, Vatanulomana
- Dessana, Pachana and Agni bala increases
- Kasa Vega Shanti
- Anti-allergic, Antihistaminic, anti microbial and Kasheer property of Shati, Bharangi, Yavasa and Pioppil
- Snadha property of Tila Taila and Guda
- Decrease Rukshata, Kharta of Vata
- Shusha Mukha, Gal and Swarbhedha decreases
- Anti-histaminic, Anti allergic, Thirst affection property of Bharangi and Yavasa

Fig. 2.
7. CONCLUSION

Vataja Kasais a prominent feature of vitiation of Vata and it is of more concern especially in children about respiratory disorder. Ayurveda remedies may have high potential to control the Vataja Kasais without any complication. In this study encouraging results was obtained in Vataja Kasai. There is significant reduction in the symptoms of Kasa with the use of Aparajita Avaleha and is found to be safe and effective.

DISCLAIMER

The products used for this research are commonly and predominantly use products in our area of research and country. There is absolutely no conflict of interest between the authors and producers of the products because we do not intend to use these products as an avenue for any litigation but for the advancement of knowledge. Also, the research was not funded by the producing company rather it was funded by personal efforts of the authors.

ETHICAL APPROVAL

As per international standard or university standard written ethical approval has been collected and preserved by the author(s). IEC: - Approved ( PU/PIA/IECHR/2019/163)

CONSENT

As per international standard or university standard, patient’s written consent has been collected and preserved by the author(s).

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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