

Vardhamaan Pippali Rasayana: – A Hope for LRTI w.s.r. Bronchiectasis – A Case Study

Satender Tanwar^{1*}, Shailaja S. V.² and Kiran M Goud³

^{1,2} Department of PG Studies in Shalya Tantra at SKAMCH & RC, Bangalore, Karnataka, India

³ Head, SKAMCH & RC, Bangalore, Karnataka, India

Abstract

Respiration is the process by which oxygen is taken in and carbon dioxide is given out. Respiratory disorders are the one among the leading cause of the death. The whole respiratory system is divided into the two parts i.e., URT and LRT and on the basis of that it is classified as URTI and LRTI; upper and lower respiratory tract infection. **Bronchiectasis** is a defined as abnormal and irreversible dilatation of the bronchi and bronchioles developing secondary to inflammatory weakening of the bronchial walls. The most characteristic clinical manifestation of bronchiectasis is persistent cough with expectoration of copious amounts of foul smelling purulent sputum. Post infectious cases commonly develop in childhood and in early adult life.

The most characteristic Wheezing and nail clubbing may also occur. Those with the disease often get frequent lung infections. Bronchiectasis may result from a number of infective and acquired causes, including pneumonia, tuberculosis, immune system problems, and cystic fibrosis. Cystic fibrosis eventually results in severe bronchiectasis in nearly all cases. The cause in 10-50% of those without cystic fibrosis is unknown. The mechanism of disease is breakdown of the airways due to an excessive inflammatory response. Involved bronchi become enlarged and the ability to clear secretions is diminished. These secretions increase the amount of bacteria in the lungs; results in the airway blockage and further breakdown of the airways. It is classified as an obstructive lung disease, along with chronic obstructive pulmonary disease and asthma. The diagnosis is suspect based on a person's symptoms and confirmed using computer tomography. Sputum cultures may be useful to determine treatment in those who have acute worsening and at least once a year. The case taken here was a rare clinical study on grounds of Ayurvedic principle by using the Vardhmaan *Pippali* rasayana in patient of bronchiectasis. The classical usage of the VPR is carried out by following the ascending order and the n descending to baseline with strict dietary regimen as explained in the classic. Significant improvement was noticed in the symptom of the patient in the span of 60 days and patient is under follow period to check the efficacy of drug in a longer run.

Keywords Ayurveda, Bronchiectasis, COPD, LRTI, VPR



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INTRODUCTION

Respiration is the process by which oxygen is taken in and carbon dioxide is given out.¹ Respiratory disorders are the one among the leading cause of the death. The whole respiratory system is divided into the two parts i.e., URT and LRT and on the basis of that it is classified as URTI and LRTI; upper and lower respiratory tract infection.

Bronchiectasis is a defined as abnormal and irreversible dilatation of the bronchi and bronchioles developing secondary to inflammatory weakening of the bronchial walls.²

The most characteristic clinical manifestation of bronchiectasis is persistent cough with expectoration of copious amounts of foul smelling purulent sputum. Post infectious cases commonly develop in childhood and in early adult life.³

In Bronchiectasis, your airways slowly lose their ability to clear out mucus. When mucus can't be cleared, it builds up and creates an environment in which bacteria can grow. This leads to repeated, serious lung infections. Each infection causes more damage to your airways. Over time, the airways lose their ability to move air in and out. This can prevent enough oxygen from reaching your vital organs.

Types⁴

1. **CONGENITAL** - A problem with how the lungs form in a fetus may cause congenital bronchiectasis. This condition affects infants and children.
2. **ACQUIRED.** - Acquired bronchiectasis occurs as a result of another condition or factor. This type of bronchiectasis can affect adults and older children. Acquired bronchiectasis is more common than the congenital type.

Bitter truth of medicine pertaining to the Bronchiectasis

- Currently, bronchiectasis has no cure. However, with proper care, most people who having it can enjoy a good quality of life.
- Early diagnosis and treatment of bronchiectasis are important. The sooner your doctor starts treating bronchiectasis and any underlying conditions, the better your chances of preventing further lung damage.

AETIOLOGY

Damage to the walls of the airways usually is the cause of bronchiectasis. A lung infection may cause this damage. Examples of lung infections that can lead to bronchiectasis include:

- Severe pneumonia
- Whooping cough or measles
- Tuberculosis
- Fungal infections

Conditions that damage the airways and raise the risk of lung infections also can lead to bronchiectasis. Examples of such conditions include:

- Immunodeficiency disorders, such as common variable immunodeficiency and less often, HIV and AIDS.
- Allergic bronchopulmonary aspergillosis. This is an allergic reaction to a fungus called aspergillus. The reaction causes swelling in the airways.
- Disorders that affect cilia function, such as primary ciliary dyskinesia. Cilia are small, hair-like structures that line your airways. They help clear mucus (a slimy substance) out of your airways.
- Chronic (ongoing) pulmonary aspiration. This is a condition in which you inhale food, liquids, saliva, or vomited stomach contents

into your lungs. Aspiration can inflame the airways, which can lead to bronchiectasis.

- Connective tissue diseases, such as rheumatoid arthritis, Sjögren's syndrome, and Crohn's disease.
- Other conditions, such as an airway blockage, also can lead to bronchiectasis. Many things can cause a blockage, such as a growth or a noncancerous tumor. An inhaled object, such as a piece of a toy or a peanut that you inhaled as a child, also can cause an airway blockage.

PATHOLOGY

The origin of inflammatory destruction process of bronchial walls is nearly always a result of the two basic mechanisms

1. Endo tracheal obstruction – by foreign bodies, neo plastic growth or enlarged lymph nodes causes the resorption of air distal to the obstruction with consequent atelectasis and retention of the secretions.⁴
2. Infection may be secondary to local obstruction and impaired systemic defence mechanism promoting bacterial growth, or infection may be a primary event i.e. bronchiectasis developing in a suppurative necrotising pneumonia. Endobronchial tuberculosis commonly

leads to bronchiectasis, either from bronchial stenosis or secondary traction from fibrosis.⁵

What Are the Signs and Symptoms of Bronchiectasis?

- A daily cough that occurs over months or years
- Daily production of large amounts of sputum (spit). Sputum, which you cough up and spit out, may contain mucus (a slimy substance), trapped particles, and pus.
- Shortness of breath and wheezing (a whistling sound when you breathe)
- Chest pain
- Clubbing (the flesh under your fingernails and toenails gets thicker)
- To find out whether you have bronchiectasis, your doctor may recommend tests to:

Diagnostic Tests and Procedures

- *Chest CT Scan*
- *Chest X Ray*

Other Tests

- Blood tests.
- Lung function tests.
- A sweat test or other tests for cystic fibrosis.

- Bronchoscopy.

Antibiotics

- Expectorants and Mucus-Thinning Medicines
- Hydration
- Chest Physical Therapy

CASE PROFORMA

- Name – XYZ
- Age – 23yrs.
- Sex-Male
- Occupation – IAS aspirant
- Socio economic status – Middle
- Religion – Hindu
- ✓ **Chief complaint – cough with copious sputum production– 12 yrs.**
- ✓ **Associated complaints –**
Intermittent fever
Wheezing
Respiratory distress
- ✓ **Previous illness history**
Diagnosed at the age of 12 yrs with the help of lung biopsy and CT scan of chest
No other premorbids observed

Previous treatment history

Once operated for the lobectomy Rt lung Lower zone due to collapse of lobe.

Family history – Nothing contributory

On examination –Before onset of the treatment

Moderately built and poorly nourishment.

Clubbing – Present – 2nd degree.

Respiratory system –

Bilateral symmetrical.

Percussion – Tympanic with altered defoned area of cardiac dullness.

Non vesicular Bronchial Sounds

B/L Extensive Rhonchi and Crepts (++)

TVF – Increased.

Whisphered Pectoroliquiy – Present

Plan of treatment –

Classical Virechana followed by Vardhmaan Pippali Rasayana(VPR).⁶

Patient observed after 60 days of treatment

Mode of Administration – From day one: One pippali should be taken and made into powder and mix with milk and drink. Everyday successive increase of pippali should be done till it reaches 28 in number and from that the dose should be tapered by one pippali till it stops.

Post treatment Changes –

Subjective changes –

- Overall improvement in the health.
- Feeling of malaise has been reduced.
- Spikes of raised body temperature frequency has been reduced.

- Intensity of cough and copious discharge reduced.
- Frequency of respiratory distress reduced.

Objective changes –

- Bilateral air entry improved.
- Rhonchi and crepts resolved completely.
- TVF – Tactile vocal fremitus reduced.

Advice given to patient –

1. Amrurta Arishta whenever feel febrile.
2. Dashmoola Katuktrya Kashaya 2tsf TID
3. Shadanga Paneeya for drinking.
4. Yashti Madhu Ksheera Paka.
5. Regular Follow up.

Living with Bronchiectasis

Early diagnosis and treatment of bronchiectasis can prevent further damage to your lungs. People who have bronchiectasis should have ongoing care and try to follow a healthy lifestyle.

• **Ongoing Care**

If you have bronchiectasis, work closely with your doctor to learn how to improve your quality of life. This involves learning as much as you can about bronchiectasis and any underlying conditions that you have.

Take steps to avoid lung infections. Ask your doctor about getting flu

and pneumonia vaccines. Wash your hands often to lower your risk of getting viruses and bacterial infections.

Healthy Lifestyle

- Following a healthy lifestyle is important for overall health and well-being. For example, if you smoke, try to quit. Smoking harms nearly every organ in your body, including your lungs.
- A healthy lifestyle also involves following a healthy diet. A healthy diet includes a variety of vegetables and fruits. It also includes whole grains, fat-free or low-fat dairy products, and protein foods, such as lean meats, poultry without skin, seafood, processed soy products, nuts, seeds, beans, and peas.
- A healthy diet is low in sodium (salt), added sugars, solid fats, and refined grains. Solid fats are saturated fat and *trans* fatty acids. Refined grains come from processing whole grains, which results in a loss of nutrients (such as dietary fiber).
- Staying hydrated also is important. Drinking plenty of fluids, especially

water, helps prevent airway mucus from becoming thick and sticky.

- Try to be as physically active as you can. Physical activity, such as walking and swimming, can help loosen mucus. Ask your doctor what types and amounts of activity are safe for you.

Emotional Support

People who have chronic lung diseases are more prone to depression, anxiety, and other emotional problems. Talk about how you feel with your health care team. Talking to a professional counselor also can help. If you're very depressed, your doctor may recommend medicines or other treatments that can improve your quality of life.

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