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Research Article

AYURVEDIC MANAGEMENT OF KSHAYAJAKASA – POST COMPLICATION OF MULTIPLE DRUG RESISTANCE TUBERCULOSIS: A CASE STUDY

Tejashwini S. Hiremath [1]*, Raja Rajeshwari N M [2]

[1] PG Scholar, Department of Samhita and Siddhanta, Sri Dharmasthala Manjunatheshwara College of Ayurveda and Hospital, Hassan, India

[2] Associate Professor, Department of Samhita and Siddhanta, Sri Dharmasthala Manjunatheshwara College of Ayurveda and Hospital, Hassan, India

*Corresponding Author Email: tejashwini818@gmail.com

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ABSTRACT

The aim of this study is the possible understanding of the case in terms of Ayurveda and a therapeutic protocol with promising result thus reducing the post complication of MDR (Multiple drug resistance) tuberculosis and post AKT treatment. Reporting a case of bronchiectasis, a post MDR tubercular complication of 18-year-old male patient with the main complaints of difficulty in breathing, reduced appetite and loss of weight. Treatment through Ayurvedic approach on OPD and IPD bases is carried out. There is an arrest in further complication, got relief of symptoms, increase in the appetite and weight gain. Understanding the case with Ayurveda aspect as Kshayajakasa (Disease related with the respiratory system) and the line of treatment adopted is Agnideepana (appetizer), Mrudushodhana (mild purification therapy), Shamana (Pacification therapy) and Brumhana (Nourishment) considering the strength (bala) of the person. Treating the post complication of tuberculosis through Ayurvedic approach is helpful in increasing the lifespan of the person by reducing its complication.

Keywords: Bronchiectasis, MDR TB (multiple drug resistance tuberculosis), Kshayajakasa

INTRODUCTION

Globally tuberculosis (TB) is one of the leading causes of death due to an infectious disease second only to HIV/AIDS and one among top 10 causes of death worldwide. Estimates suggest that approximately one-third of the world's population is infected with *Mycobacterium tuberculosis*, the microbe that causes TB, and ~10% of infected individuals will develop active TB at some point in their lives. As per 2015 survey it is suspected that 19 - 40 age group was affected TB with MDR (Multiple Drug Resistance).[1]As per WHO report of 2016, Ending of TB epidemic by 2030 is foremost health target goal. So to combat such cases, WHO has addressed 6 core functions, important one among is the evidence based strategies and standards for prevention, care and control through integrative medicine.[2] In the Ayurveda field research works such as add on therapy in TB have been undertaken and got successful results.[3]

The Present case being diagnosed in 2015 with MDR-TB at the age of 18, undergone AKT for about 1year 5months and this case approached with the post complication of Koch's i.e. Bronchiectasis. With the symptoms of difficulty in breathing, cough with copious foul yellowish sputum in morning of about 50 – 100 ml, Loss of weight (there is more weight loss after the completion of AKT) and AFB report was negative. The case was successfully treated through ayurvedic approach.

Case report

Male Patient aged 21 years, Student, admitted on 28/12/17 with OPD No 119761 and IPD No. 27410; Discharged on 1/1/18. Approached with the main complaints of Difficulty in breathing while climbing the stairs, walking for little distance (about 10 steps) since 1 ½ years. Cough with copious foul expectorant early morning (yellowish green) for about 50-100 ml. Loss of weight – since 3 years and associated with general weakness.

H/O of Present illness

K/C/O Koch's, after completion of AKT he felt reduction in symptoms such as blood tinged Sputum, cough and fever. After some days he developed difficulty in breathing on climbing the stairs, walking for little distance (about ten steps) and exertion on doing little work. Cough with yellowish green expectorant early in morning and on exposure to cold and dust it was aggravated. Gradually reduction of weight, loss of appetite, chest pain, weakness and repeated fever was also associated with the main complaints. After six months of treatment, appetite was improved but no changes observed in other complaints.

Past history

The patient was migrated to the hostel for education three years back. The appearances of the symptoms are simultaneous with co-hosteller. After six months of asymptomatic phase, developed disturbed sleep, occasional cough with blood stained sputum, for which no medication was consumed. There after patient visited consultant at residential area, when symptoms got aggravated and there diagnosed as TB based on laboratory investigations. Because of severity of the disease (MDR) AKT treatment was advised for one year five months. No family members had suffered from Koch's or any other contagious diseases.

General examination

On physical examination appearance was lethargic with poor built and nourishment. Presence of the slight peripheral cyanosis (bluish discoloration of nails), mild cervical lymphadenopathy and since 2 ½ years clubbing is present.

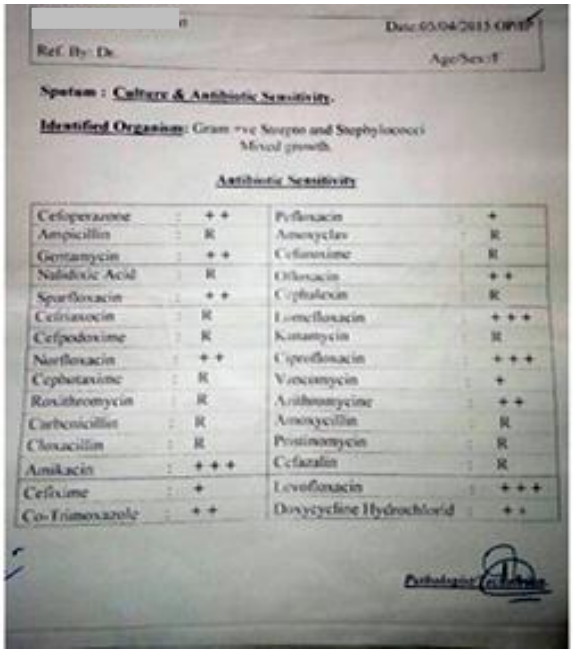
Systemic examination

Respiratory system

- On inspection prominent clavicle, Flat chest, purse lip breathing, abdominal thoracic respiration with involvement of accessory muscle was noted.
- On palpation no tenderness, Chest expansion on Inspiration was 30 cm and Expiration was 29 cm noted. Vocal fremitus decreased in both upper lobes.
- On percussion resonant in both upper and middle lobe, dull at the right lower lobe and cardiac region was noted.
- On auscultation diminished bronchovesicular breath sounds with crepitations was noted.
- Rest of the systemic examination revealed the normal findings.

Investigation

Report on 5/4/2015 Sputum culture suggestive of gram-positive streptococcus and staphylococci (Figure 1). CT Scan n 6/11/205 Suggestive of minimal broncheactic changes (Figure 2) Hematology report on 29/12/17 reveals Hemoglobin 16 gm/dl, ESR – 12 mm/1st hour, Differential W.B.C Count –Lymphocytes – 50%, HIV and HbsAg – Negative, ECG – Suggestive of Tachycardia, ST elevation present with cardiac hypertrophy, Chest X-ray PA view reveal presence of Consolidation, Opacities Suspects of healed TB, Elongated lungs with indistinct margins, Hyper density of lungs (Figure 3), COPD, Shift of Trachea slightly towards right side.



Ref. By: Dr.

Age/Sex: F

Sputum : Culture & Antibiotic Sensitivity.

Identified Organism: Gram +ve Staphylococci

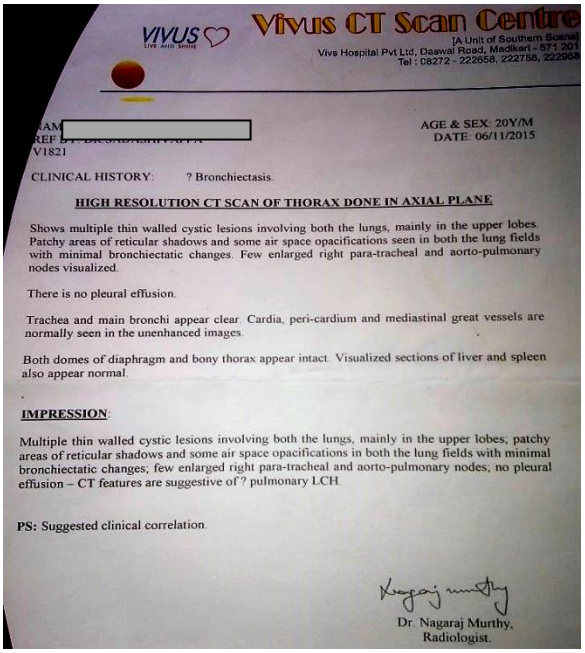
Mixed growth.

Antibiotic Sensitivity

Cefoperazone	++	Pefloxacin	+
Ampicillin	R	Amoxyclav	R
Gentamycin	++	Cefuroxime	R
Nalidixic Acid	R	Ofloxacin	++
Sparfloxacin	++	Cephalexin	R
Ceftriaxocin	R	Lomefloxacin	+++
Cefpodoxime	R	Kanamycin	R
Norfloxacin	++	Ciprofloxacin	+++
Cephotaxime	R	Vancomycin	+
Roxithromycin	R	Azithromycine	++
Carbenicillin	R	Amoxycillin	R
Cloxacillin	R	Prostinomycin	R
Amikacin	+++	Cefazolin	R
Cefixime	+	Levofloxacin	+++
Co-Trimoxazole	++	Doxycycline Hydrochlorid	++

Pathologist

Figure 1: MDR



VIVUS

Vivus CT Scan Centre

[A Unit of Southern Scanet]

Vivs Hospital Pvt Ltd, Daswal Road, Madikeri - 571 201

Tel : 08272 - 222658, 222758, 222958

AGE & SEX: 20Y/M

DATE: 06/11/2015

V1821

CLINICAL HISTORY: ? Bronchiectasis.

HIGH RESOLUTION CT SCAN OF THORAX DONE IN AXIAL PLANE

Shows multiple thin walled cystic lesions involving both the lungs, mainly in the upper lobes. Patchy areas of reticular shadows and some air space opacifications seen in both the lung fields with minimal bronchiectatic changes. Few enlarged right para-tracheal and aorto-pulmonary nodes visualized.

There is no pleural effusion.

Trachea and main bronchi appear clear. Cardia, peri-cardium and mediastinal great vessels are normally seen in the unenhanced images.

Both domes of diaphragm and bony thorax appear intact. Visualized sections of liver and spleen also appear normal.

IMPRESSION:

Multiple thin walled cystic lesions involving both the lungs, mainly in the upper lobes; patchy areas of reticular shadows and some air space opacifications in both the lung fields with minimal bronchiectatic changes; few enlarged right para-tracheal and aorto-pulmonary nodes; no pleural effusion – CT features are suggestive of ? pulmonary LCH.

PS: Suggested clinical correlation.

Dr. Nagaraj Murthy,
Radiologist.

Figure 2: Bronchiectatic changes

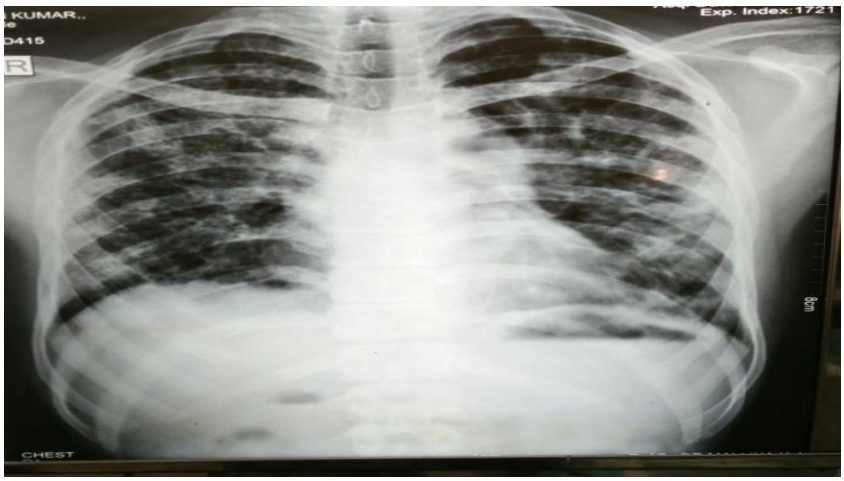


Figure 3: X – Ray findings

Diagnosis

As the present case came with the main complaints of gradually weight loss along with increased Cough with the copious yellowish green foul sputum with the difficulty in breathing aggravates on exertion, on exposure to cold and dust which occurred as the complication of MDR TB treatment. Kasa being one of the symptoms of Shosha.[4] if it is not treated properly further Dhatu kshaya occurs thus leads to Kshayajakasa. Here it is considered as the Kshayajakasa caused as the Upadrava.

Treatment

Table 1: Treatment protocol followed during the previous visits

Day – Date	Treatment	Observation
Day 1 – 10 (6/10/17to14/10/17) On IPD basis	Two days Vyoshadi vati Three days Snehapana with Kalyanaka ghruta . Fourth day abhyanga with Bruhatsaindavaditaila followed by bhashpa sweda. Fifth day mrudu abhyanga and Bhashpa sweda followed by mrudu virechana with Avipattikara churna was advised.	C/O Difficulty in breathing since 3 ½ Years Cough with expectoration since 3 Year Reduced Appetite since 3years O/E - Wheeze ++ Resulted in increase of appetite and decrease in breathlessness
Day 11-22 (15/10/17 to 26/10/17)	1) Pippali ksheera paaka 50 ml bd 2) Vasa swarasa 15 ml with 10 ml of honey OD E/S 3) Dadimadya ghrita 1 tsp BD e/s	Came for follow up Reduced breathing difficulty
Day 23 – 49 (27/10/17to 23/11/17)	1) Ajamamsa rasayana 1 tsp TID with milk 2)Vasaswarasa 15 ml with 10 ml of honey OD E/S 3) Dadimadya Ghrita 2 tsp mixed with food is advised.	Came for follow up Reduced breathing difficulty Increase in the appetite
Day 50 – 83 (24/11/17to27/12/17)	1) Ajamamsa rasayana 1 tsp TID with milk 2) Vasa swarasa 15 ml with 10 ml of honey OD E/S 3) Pippali churna of 100 gm and 50 gm of Yesthimadhu churna with milk is advised.	Came for follow up Reduced breathing difficulty Increase in the appetite Reduced weakness

Considering the condition of the patient *Shamana snehapana* is advised followed by *Mrudushodhana*.

Table 2: Second time admitted under IPD basis on 28/12/17

Day – Date	Treatment	Observation
Day 1 28/12/17 On the day of admission	1) Dadimadhya ghruta 6 tsp BD e/s at 1 pm and 4.30 pm Diet- Mudgayoosha 200mlis advised	O/E Crepitation +ve b/l upper lobe Nadi – manda Jihwa – alipta Bowel – not passed Appetite – Good
Day 2 29/12/17	1) Dadimadyaghruta 8 tsp BD e/s at 8 am and 4.30 pm, 2) Sthanikamrudu Abhyanga with B.S Taila followed by Nadisweda is advised.	C/O Weakness Passed 2 times loose stool
Day 3 30/12/17	1) Dadimadyaghruta 10 tsp e/s at 8 am and 4 tsp e/s at 4.30 pm, 2) Sthanikamrudu Abhyanga with B.S Taila followed by Nadisweda.	C/O Abdominal pain on drinking Ghruta O/E Crepitations - + b/l lung fields Bowel – Once loose stool
Day 4 31/12/17	1) Dadimadyaghruta 4 tsp BD e/s at 8 am. 2) Sthanikamrudu Abhyanga with B.S Taila followed by Nadisweda. 3) Trivrutleha 30 gm HS with warm water.	C/O Weakness O/E Crepitations - reduced Bowel – Passed
Day 5 1/1/18	Samsarjana karma (Mudgayusha 100 ml)	C/O Weakness increased Result: No Wheeze/ crepitation. Reduction in Sputum Quantity Bowel – Once loose mixed with medicine.

Medicine on discharge

Dadimadhya ghruta 10 ml in Empty Stomach, 100 gm of Shringyadi Churna, 5 gm Abhraka Bhasma, 20 gm of Godanti Bhasma all together ½ tsp BD is advised.

RESULT AND DISCUSSION

There is increase in his appetite, weight gain of 5 kg, Mild reduction in peripheral cyanosis, Slight improvement in the breathing difficulty and improvement in the way of walking and is able to do his daily routine without the assessment of third person

At first when the patient approached, considering his condition for agnideepana (increase the appetite) and to relieve shwasa kruchrata (breathing difficulty), vyoshadi vati is given for two days, next three days snehapana with kalyanakagruta followed by sthanika abhyanga, bhashpasweda and on fourth day mrudu virechana was given. This increased his appetite and reduced the breathing difficulty. Later Vasaswarasa along with Madhu is advised continuous for 45 days. As it is indicated in conditions of Jwara, Raktapitta, Kshaya, Kasa and also it reduces the Pitta and Kapha if it is given along with *Madhu*.[5] Studies also suggest Vasaswarasahad beneficial result in case of *Shwasa* and Kasa (respiratory diseases).[6] Pippali is one of the Rasayana dravya also has Agnideepana and Amapaachana property.[7] Studies suggest that use of vardamana pippali method improve the metabolism and act

as natural anti-inflammatory agent.[8] Pippali in gradual increasing and decreasing doses promotes the saturation of the tissues (Rasayana), Promotes bulk (Bruhmana), induces strength (Balya), alleviates hoarseness of voice (Swarabheda nashaka) also strengthens the voice.[9] Ajamasarasayana is indicated in the Panchakasa, Kshaya and Vatavikara hence it is advised.[10]

At the second time of admission, treatment started with Dadimadhaya ghruta. It is selected as it is having the properties of Agnideepana and Brumhana.[11] In case of Kshayajakasa also Deepana and Brumhana ghruta are indicated, also it does the action of Kaphahruth (eliminates the Kapha). Considering the Bahudoshaavastha in patient and as his bala is less, Sthanika mrudu-abhyanga with Bruhatsaindavadi taila which does the Kapha vilayana followed by Bhashpa sweda is done and Mrudu virechana is advised.[12]

Abhraka having the action as that like Amruta, does the Brumhana, Agnideepana and Ayushya.[13] Godanti having the property of Pittashamana indicated in case of Jwara and Kshaya.[14] Shrungyadi churna is indicted in Kshayajakasa adhikarana.[15] Tankana does the Agnivardhana and Kaphagna.[16]Again on discharge Dadimadhya-ghruta for *Vata Shamanartha* and to maintain Agni it was advised.

CONCLUSION

Treating the post complication of tuberculosis through Ayurvedic approach by snehana, deepana, mrudushoadhana and bruhmana is the boon, thus helpful in increasing the lifespan of the person with less complication.

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