

# Role of Integrative Medicine in Oncology for longevity and Quality of life: A Case Report

Reshma P. Jogdand\*, Amit Singh, R. Nagrathna

Department of Life Sciences, SVYASA University, Bangalore, India

## KEY WORDS

Adenocarcinoma of lungs  
Back pain  
Breathlessness  
Imbalance in walking Yoga therapy  
Quality of life (QOL)

## ABSTRACT

A patient with Adenocarcinoma of lungs diagnosed in (Sep 2014) without any co-morbidity like –DM-2, HTN. Patient received 5 cycles of Chemotherapy and 10 sessions of Radiotherapy followed by oral hormonal therapy for 2 yrs which shows significant reduction in size of nodule in lungs. In 2016 PET scan showed lung nodules have increased in size and new lesions were found in brain, shoulder and L5 region with symptoms of pleural effusion, imbalance in walking, difficulty in breathing and pain in left shoulder and lumbar region. In Dec 2016, he underwent naturopathy treatment like mud therapy and acupressure with vitamin supplements B17, B15, zinc, Tibetan medicine and Ayurveda medications significant improvement in symptoms. In Sep 2017 participant was admitted in Oncology Department of Arogyadhama with present history of generalized weakness, severe shoulder and back pain as well as change in walking gait due to weakness of lower limbs, breathlessness, insomnia and anorexia. He was advised Integrative Oncology treatment module which consists of yoga, Naturopathy, Ayurveda and Holistic Diet along with conventional medicine. There was significant improvement in breathlessness, muscular strength in lower limb, quality of life (QOL) and reduction in pain in shoulder and back, Improvement in walking gait after the 1 month of treatment. The present case study is an attempt to provide integrative medicine (yoga Ayurveda, Naturopathy, Conventional Medicine) for the promotion of positive health and management of pulmonary Adenocarcinoma.

doi: 10.38205/imcr.020110

\*Corresponding Author:

**Reshma P. Jogdand**  
Department of Life Sciences,  
SVYASA University, Bangalore, India  
Contact no: +91-94491649370  
E-mail: reshma.bnys@gmail.com

## Introduction

Cancer is one of the leading causes of death worldwide, with an incidence of 14 million new cases per year, with about 1 million diagnosed in India. The prevalence of cancer has increased over the past decade and is expected to rise by 8% in the next 5 years. Regular screening, early detection, and improved therapies have increased the 10-year survival from 61% to 77% in the past decade. However, advancements in cancer treatment have not changed mortality rates (1).

### *Role of Yoga in Cancer*

Several factors play a role in the onset of Cancer. Increasing importance is being given to inflammation. While acute inflammation is healing and beneficial, chronic inflammation has the opposite effect. Chronic inflammation triggers NF-kappa-B (NFkB), the protein complex which influences DNA transcription among other functions. NFkB activates a pathway resulting in the expression of pro-inflammatory genes such as cytokines, adhesion molecules and other chemicals. At this stage there is certain evidence that yoga and positive changes in one's lifestyle can reverse this process (2).

### *Stress and Cancer*

Stress associated with diagnosis and treatment of cancer, affects not only quality of life but also leads to poorer prognosis and shorter survival. Adverse effects of stress on prognosis occur through following mechanisms: 1. Suppression of natural killer (NK) cells and their cytotoxicity (3). 2. Poorer repair of damaged DNA (4). 3. Modulation of apoptosis (5) and 4. Oxidative stress: aggravated by psychological stress (6). NK cell activity increases by relaxation methods. Patients with malignant melanoma (Skin cancer), who underwent relaxation program for 6 weeks had significant increase in the percentage of NK cells, as well as increase in NK cell cytotoxicity, as also lower rates of recurrence and death. Similarly, supportive group relaxation methods led to longer survival and better quality of life among women with advanced breast cancer. Yoga, meditation and pranayama are century old processes known to relax mind and energize the body. SK Yoga, a rhythmic breathing process, introduced by Sri Sri Ravishankar ji, is known to eliminate stress, anxiety and depression and increase enthusiasm. Fall in blood lactate, increase in glutathione, superoxide Dismutase (SOD) and catalase and increase in natural killer (NK) cells indicate relaxation, better antioxidant and better immune effects of

SKY in normal individuals and those with cancer. Further confirmation of better antioxidant defense was available through studies conducted using reverse transcriptase – polymerase chain reaction (RT-PCR), at AIIMS. This was accompanied by better stress regulation and better immune status due to prolonged life span of lymphocytes by up regulation of anti-apoptotic genes and pro-survival genes. Qu et al observed rapid and significantly greater effect of SKY on gene expression in peripheral blood mononuclear cells (PBMCs). Other positive effects of SKY included reduction in tobacco addiction and reduction in side effects of chemotherapy. Hence, SKY appears useful adjunct to cancer management (7), however the effect of hyperventilation needs to be carefully evaluated.

Lung malignant growth is the main source of disease spreading in the United States and around the globe. A greater part of lung malignant growth spread can be ascribed to cigarette smoking, and analysing the pace of cigarette smoking. Understanding the study of disease transmission and causal elements of lung malignant growth, can give insights. This revolves around modifiable factors, including tobacco smoking, work-related malignant growth, causing operators, diet, and ionizing radiation. It is akin to nuclear and innate pieces of lung carcinogenesis (8).

## Case Presentation

A 54 years old male 'Mr XXX from Delhi was enrolled as a participant in Prashanti Kutiram (Arogyadhama) on 3rd of September 2017 and was admitted in integrative medicine for Oncology, therapy started with mild yoga practices for a week and slowly Naturopathy and Ayurveda therapies were added for ailments. Second week onwards, integrated therapy started and patient has marked a positive change in health such as weakness in limbs, reduced, and gait was indicative normancy. Integrated medicine such as Yoga therapy, twice in a day, Naturopathy and Ayurveda Therapy once in a day was followed. Diet therapy was administered whole day from morning to evening and according to symptoms, change in Diet protocol was allowed. Daily routine checkup includes vital parameters, dietary intake, practices follow up, as well as other symptoms related to bowel movement and gait. Result was taken before treatment and after treatment with a follow up having undergone an integrative therapy since 3 years.

### IAYT Protocol (9)

Treatment Regimen: (Intervention is 3 months)

**Table 1:** Yoga protocol followed by participants

|  | Rounds | Duration    | Time  |
|--|--------|-------------|-------|
| <b>1. Loosening Practice (10,11)</b>         |        |             |       |
| Hand Stretch Breathing                       | 10     | Twice a day | 1 min |
| Hands in & out Breathing in sitting Position | 10     | Twice a day | 1 min |
| Ankle Stretch Breathing in sitting position  | 10     | Twice a day | 1 min |

|  |              |               |        |
|--|--------------|---------------|--------|
| Tiger Breathing                                    | 10           | Twice a day   | 1 min  |
| Strait leg raising alternate leg                   | 10           | Twice a day   | 1 min  |
| Setubandhasana Breathing                           | 10           | Twice a day   | 1 min  |
| Folded leg lumber stretch                          | 10           | Twice a day   | 1 min  |
| Bhujangasana Breathing                             | 10           | Twice a day   | 1 min  |
| <b>2. Shakti vikasaka practice (12,13)</b>         |              |               |        |
| Manibandha Sakit Vikasaka (Wrists)                 | 10           | Twice a day   | 1 min  |
| Karaprasta Aakti Vikasaka (Back of Hand)           | 10           | Twice a day   | 1 min  |
| Kaphonoi Sakti Vikasaka (Elbows)                   | 10           | Twice a day   | 1 min  |
| Griva Sakti Vikasaka (Neck)                        | 10           | Twice a day   | 1 min  |
| <b>3. Pranayama (14)</b>                           |              |               |        |
| Sectional Breathing                                | 15           | Once in a day | 10 min |
| Cooling Pranayama                                  | 9            | Once in a day | 3 min  |
| Nadisuddhi   | 15           | Once in a day | 3 min  |
| Chandranuloma Vilama                               | 15           | Once in a day | 3 min  |
| Bhamari  | 9            | Once in a day | 3 min  |
| <b>4. Kriya (15)</b>                               |              |               |        |
| Kapalabhati  | 30-40 stroke | Once in a day | 1 min  |
| <b>5. Meditation</b>                               |              |               |        |
| OM Meditation (16)                                 | 1 round      | Once in a day | 35 min |
| Cyclic Meditation (17)                             | 1 round      | Once in a day | 30 min |
| Mind sound resonance technique (16)                | 1 round      | Once in a day | 30 min |
| Pranic Energising Techniques (18)                  | 1 round      | Once in a day | 45 min |
| Steps:<br>The following are the eight steps of PET |              |               |        |
| 1. Opening prayer "pranasedam vase sarvam"         |              |               |        |
| 2. Breath Awareness or Balancing of Breath         |              |               |        |
| 3. Recognition of Vyana                            |              |               |        |
| 4. Movement and Rotation of Vyana                  |              |               |        |
| 5. Balancing and Energisation                      |              |               |        |
| 6. Silence   |              |               |        |
| 7. Resolve ... 9 rounds                            |              |               |        |
| 8. Closing prayer "sarvebhavantu"                  |              |               |        |

### Diet Plan

**Table 2:** Diet chart

|           | Breakfast (8:00 am)      | Juice (11 am) | Lunch (1:00 pm)                             | Dinner (7:30 pm)   |
|-----------|--------------------------|---------------|---|--|
| Friday    | Khichadi/Daliya          | Sprout juice  | 1 chapati + 1 cup dal + 1 cup rice + 100 gm | 1 chapati + 1 cup dal + 1 cup rice + 100 gm                |
| Saturday  | Poha/Boiled Sprouts/Upma | Sprout juice  | boiled veg + Butter                         | boiled veg + Vegetable soup/ Butter milk with jeera powder |
| Sunday    | Veg khichadi/Daliya      | Sprout juice  | boiled veg + Butter                         | boiled veg + Vegetable soup/ Butter milk with jeera powder |
| Monday    |                          | Sprout juice  | boiled veg + Butter                         | boiled veg + Vegetable soup/ Butter milk with jeera powder |
| Tuesday   |                          | Sprout juice  | boiled veg + Butter                         | boiled veg + Vegetable soup/ Butter milk with jeera powder |
| Wednesday |                          | Sprout juice  | boiled veg + Butter                         | boiled veg + Vegetable soup/ Butter milk with jeera powder |
| Thursday  |                          | Sprout juice  | boiled veg + Butter                         | boiled veg + Vegetable soup/ Butter milk with jeera powder |

**Table 3:** Details about Sprout Juice ingredients

| <b>Sprout juice (19)</b>  |
|---|
| Recipe:   |
| Javegodhi (native wheat) – 1 kg   |
| Unpolished rice – 1 kg  |
| Fox tail – 1 kg   |
| Little millet – 1 kg  |
| Ragi – 1 kg   |
| Green gram – 150 g  |
| Bengal gram – 100 g   |
| Horse gram – 100 g  |
| Alfalfa – 100 g   |
| Ground nut – 100 g  |
| Black eyed peas (alasanade) – 100 g   |
| Peas – 100 g  |
| Broad beans – 100 g   |
| Amaranth seeds (not sprouted) – 100 g   |
| Proportion of carbs to protein should be 60:15. Accordingly, grains and legumes have been divided.  |
| <ul style="list-style-type: none"> <li>• Make it in small quantity first and check the taste and then standardize it</li> <li>• All need to be washed, soaked for 12 hours and sprouted for 12 hours</li> <li>• Soak nuts, seeds, dry fruits 12 hours</li> <li>• Grind sprouts and (nuts, seeds &amp; dry fruits) separately</li> <li>• Add organic unrefined jaggery, if required</li> <li>• Bring it to thin consistency and bring it to a boil to make kanji</li> <li>• Now add ground nuts, seeds and dry fruits</li> <li>• Mix &amp; serve 10. Three times/meals per day</li> <li>• Approximately 60 g (sprouted grains) quantity per meal (not very sure, this is the theoretical measure, you need to make it &amp; see if it is ok for 1 meal)</li> </ul> |

**Integrative Therapy Time table**

Friday Schedule:

- 01:00 pm- Lunch Annapurna Hall
- 03:00 pm- Consultation/Parameters (Respective section)
- 05:00 pm- Integrated Approach of Yoga Therapy Introduction Lecture
- 06:00 pm- Bhajan (Sampurna Hall)
- 06:30 pm- Tratak/CM (Sampurna Hall)
- 07:30 pm- Dinner (Annapurna Hall)
- 08:00 pm- Kit collection

| Time     | Schedule                              | Venue                       |
|----------|---------------------------------------|-----------------------------|
| 5:30 am  | Om Meditation                         | **Language wise             |
| 6:00 am  | Special Technique                     | Section wise                |
| 7:00 am  | Maitre milan                          | Mangal Mandir               |
| 8:00 am  | Juice Therapy/Naturopathy Treatment   | Surabhi                     |
| 9:30 am  | Parameters                            | Section wise                |
| 10:30 am | Juice/Pranayama/Naturopathy Treatment | Surabhi/<br>**Language wise |
| 11:30 am | Lunch                                 | Annapurna Hall              |
| 12:30 pm | Lecture                               | **Language wise             |
| 1:00 pm  | Lunch                                 | Annapurna hall              |
| 2:30 pm  | Ayurveda Treatment                    | Surabhi                     |

|         |  |                 |
|---------|--|-----------------|
| 3:00 pm | MSRT                                       | **Language wise |
| 3:45 pm | Special Technique                          | Section wise    |
| 4:45 pm | Juice therapy                              | Annapurna Hall  |
| 5:00 pm | Tuning to Nature/<br>Acupuncture/Pranayama | Sampurna hall   |
| 6:00 pm | Bhajan                                     | Sampurna Hall   |
| 6:30 pm | Tratka/CM                                  | **Language wise |
| 7:30 pm | Dinner                                     | Annapurna Hall  |
| 8:30 pm | Kashayam                                   | Annapurna Hall  |

\*\*English: Sampurna Hall; \*\*Hindi: Prajwal Hall; \*\*Kannada: Vimarsha Hall

**Vital data: Intervention (3 months)**

**Table 4:** Vital data in Numerical form before and After treatment

| Parameters             | Pre therapy | Post therapy | Percentage |
|------------------------|-------------|--------------|------------|
| Pulse Beats/min        | 80 bpm      | 70 bpm       | 0.12       |
| BP (Systolic) mmHg     | 126 mm/Hg   | 110 mm/Hg    | 0.12       |
| BP (Diastolic)         | 77 mm/Hg    | 68 mm/Hg     | -11.68     |
| Respiratory Cycles/min | 18 cpm      | 12 cpm       | -33.33     |
| Bhramari Time (Sec)    | 6 sec       | 19 sec       | 50         |
| Symptoms score         | 07          | 01           | -85.71     |
| Medication score       | 12          | 01           | -91.66     |
| Weight in Kg           | 58.5        | 63.3         | 8.20       |
| Height in Cm           | 174         | 174          | -          |

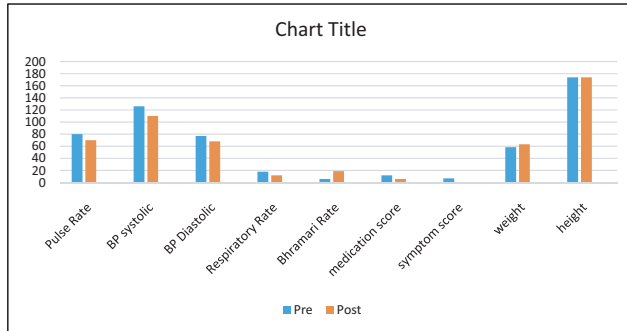
Graphical presentation shows that there is an marked positive reduction in symptom score. Positive reduction in all vital signs. Bhramari rate shows a positive improvement and more specifically, Bhramari rate has increased which can be considered as a positive improvement.

**Discussion**

Several factors play a role in the onset of Cancer. Increasing importance is being given to inflammation. While acute inflammation is healing and beneficial, chronic inflammation has the opposite effect. Chronic inflammation triggers NF-kappa-B (NFkB), the protein complex which influences DNA transcription among other functions. NFkB activates a pathway resulting in the expression of pro-inflammatory genes such as cytokines, adhesions molecules and other neuro transmitter. At this stage, there is certain evidence that yoga and positive changes in one’s lifestyle can reverse this process.

3 months of intervention and 3 years of follow up case of Adenocarcinoma of lungs was observed. The patient was able to maintain a healthy living adopting IAYT (Integrated approach of Yoga therapy) which helped improving the symptoms score including reduction in fatigueless in limbs so that participant is able to walk without support and attaining day to day activity without care taker, reduction in shoulder pain and provided a quality of sleep as well as reduction in medication. During his stay he had undergone yoga technique

practice, meditation, relaxation techniques, Naturopathy treatments there will be marked positive changes in all vitals including Blood pressure, Respiratory rate as well as increased in Bhramari rate which shows the good capacity of lungs, Marked change in weight of Participants with healthy food habits able to achieve healthy weight gain.



**Fig. 1:** Graphical presentation of Vital data before and after treatment.

## Conclusion

Integrative medicine is very much effective in symptomatic reduction and maintain healthy life style if IAYT Protocol adopted prolong or made as a routine.

## Acknowledgement

First of all, I bestow in front of Lord Dhanavantari and express deepest gratitude to the almighty. In addition I would like to acknowledge the following people who played an instrumental role in the completion of this project. I express my appreciation to the blessings of my gurus and salutations to my parents and all my teachers. I am grateful to Dr. Nagarathna and Dr. Amit Singh of research for sharing their thoughts with other people. Special thanks to a person who motivated me for this work is Dr. Amit Singh, his guidance and support makes me more strong and confident to study in this area.

I am appreciative to section therapist Mr. Parameshwar and section In charge Dr. Umashankar for their guidance and allowing me to provide Yoga therapy details and their immense support in my presented work. My love and regards goes to my loving parents for their endless support and encouragement. Finally, my hearted thank to my husband Mr. Sumit Aundhekar for extending his support throughout my work. I express my gratitude to all the Participants, as they were the true inspiration and purpose.

## Authorship contribution

RJ has analyzed data and written the paper.

RN has conceptualized the integrative module for Oncology management – guided in writing a article.

AS has implemented treatment protocol and taken the clinical parameters.

## Informed consent

Yes.

## Source of funding

Nil.

## Conflict of interest

Nil.

Received Date: 01-05-20; Revised Date: 21-11-20

Accepted Date: 26-12-20

## References

- Lozano R, Naghavi M, Foreman K, Lim S, Shibuya K, Aboyans V, Abraham J, Adair T, Aggarwal R, Ahn SY, AlMazroa MA. Global and regional mortality from 235 causes of death for 20 age groups in 1990 and 2010: a systematic analysis for the Global Burden of Disease Study 2010. *The Lancet*. 2012 Dec 15;380(9859):2095–128.
- Burney S, Irfan K, Saif MW, Masud F. Diabetes and pancreatic cancer. *JOP. Journal of the Pancreas*. 2014 Jul 28;15(4):319–21.
- Carlsten M, Järås M. Natural killer cells in myeloid malignancies: immune surveillance, NK cell dysfunction, and pharmacological opportunities to bolster the endogenous NK cells. *Frontiers in immunology*. 2019 Oct 11;10:2357.
- Banks P, Xu W, Murphy D, James P, Sandhu S. Relevance of DNA damage repair in the management of prostate cancer. *Current problems in cancer*. 2017 Jul 1;41(4):287–301.
- Pistritto G, Trisciuglio D, Ceci C, Garufi A, D'Orazi G. Apoptosis as anticancer mechanism: function and dysfunction of its modulators and targeted therapeutic strategies. *Aging (Albany NY)*. 2016 Apr;8(4):603.
- Gupta RK, Patel AK, Shah N, Choudhary AK, Jha UK, Yadav UC, Gupta PK, Pakuwal U. Oxidative stress and antioxidants in disease and cancer: a review. *Asian Pacific Journal of Cancer Prevention*. 2014; 15(11):4405–9.
- Kuhn E, Morbini P, Cancellieri A, Damiani S, Cavazza A, Comin CE. Adenocarcinoma classification: patterns and prognosis. *Pathologica-Journal of the Italian Society of Anatomic Pathology and Diagnostic Cytopathology*. 2018 Mar 5;110(1):5–11.
- Cruz CS, Tanoue LT, Matthay RA. Lung cancer: epidemiology, etiology, and prevention. *Clinics in chest medicine*. 2011 Dec 1;32(4):605–44.
- Rao RM, Amritanshu R, Vinutha HT, Vaishnaruby S, Deepashree S, Megha M, Geetha R, Ajaikumar BS. Role of yoga in cancer patients: Expectations, benefits, and risks: A review. *Indian journal of palliative care*. 2017 Jul;23(3):225.
- Svatmarama S ABHYP. *HathaYogaPradipika-SanskritTextWithEnglish-TranslationAndNotes.pdf*. 2001.
- Kumar N, Bhatnagar S, Velpandian T, Patnaik S, Menon G, Mehta M, Kashyap K, Singh V. Randomized controlled trial in advance stage breast cancer patients for the effectiveness on stress marker and pain through Sudarshan Kriya and Pranayam. *Indian journal of palliative care*. 2013 Sep;19(3):180.
- Saraswati S SS. *Hatha Yoga Pradipika*. Bihar School of yoga. 1998.
- Banasik J, Williams H, Haberman M, Blank SE, Bendel R. Effect of Iyengar yoga practice on fatigue and diurnal salivary cortisol concentration in breast cancer survivors. *Journal of the American Academy of Nurse Practitioners*. 2011 Mar;23(3):135–42.
- Patil SG, Dhanakshirur GB, Aithala MR, Naregal G, Das KK. Effect of yoga on oxidative stress in elderly with grade-I hypertension: a randomized controlled study. *Journal of clinical and diagnostic research: JCDR*. 2014 Jul;8(7):BC04.

15. Janakiramaiah N, Gangadhar BN, Murthy PN, Harish MG, Subbakrishna DK, Vedamurthachar A. Antidepressant efficacy of Sudarshan Kriya Yoga (SKY) in melancholia: a randomized comparison with electroconvulsive therapy (ECT) and imipramine. *Journal of affective disorders*. 2000 Jan 1;57(1-3):255-9.
16. Telles S, Nagarathna R, Nagendra HR. Autonomic changes during "OM" meditation. *Indian journal of physiology and pharmacology*. 1995 Oct 1;39:418-20.
17. Subramanya P, Telles S. A review of the scientific studies on cyclic meditation. *International Journal of Yoga*. 2009 Jul;2(2):46.
18. Brott TG, Halperin JL, Abbara S, Bacharach JM, Barr JD, Bush RL, Cates CU, Creager MA, Fowler SB, Friday G, Hertzberg VS. 2011 ASA/ACCF/AHA/AANN/AANS/ACR/ASNR/CNS/SAIP/SCAI/SIR/SNIS/SVM/SVS guideline on the management of patients with extracranial carotid and vertebral artery disease: a report of the american college of cardiology foundation/american heart association task force on practice guidelines, and the american stroke association, american association of neuroscience nurses, american association of neurological surgeons, american college of radiology, american society of neuroradiology, congress of neurological ... *Journal of the American College of Cardiology*. 2011 Feb 22;57(8):e16-94.
19. Johnson IT. Phytochemicals and cancer. *Proceedings of the Nutrition Society*. 2007 May;66(2):207-15.