

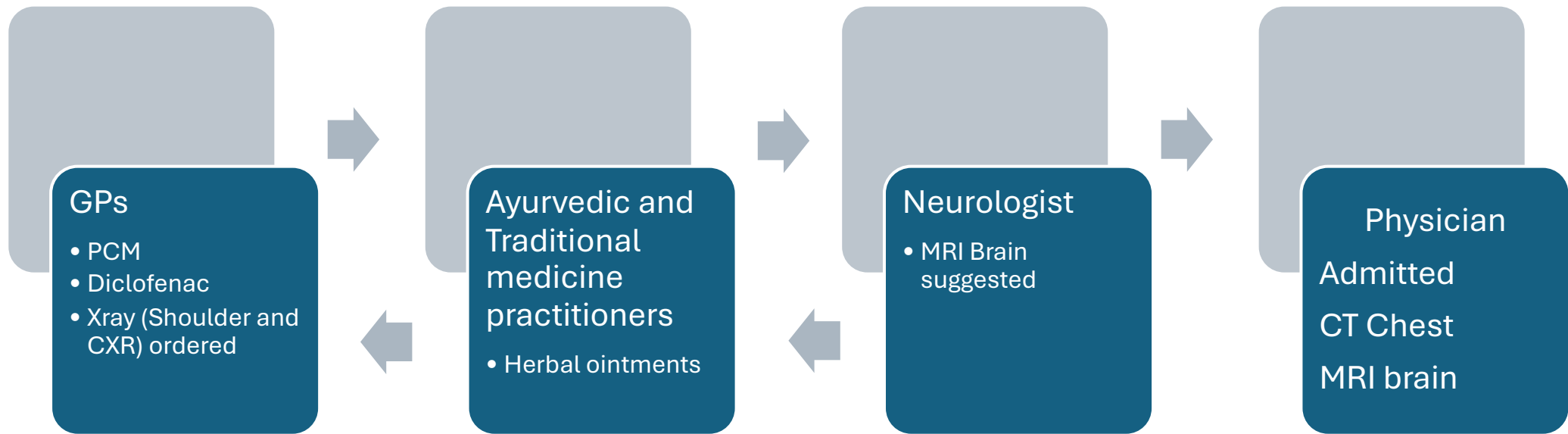
Trainees Forum- Case Based Discussion 11/21/2023

Dhanushka Namal Weerakoon



- A 67-year-old man without any significant previous medical history complained of **right upper limb sharp pain radiating downwards from the shoulder area**.
- This pain was persistent throughout the day and was not related to any movements.
- It initially responded to simple analgesics, however after about 3 months from onset, it kept him awake during sleep. He also felt a mild numbness involving the medial aspect of his hand and forearm.
- It was not initially associated with any weakness of his right hand. Our patient was a mason from Galle and pain affected him from doing his daily job.
- He sought help from several medical practitioners , both western and traditional .
- His pain initially responded to paracetamol, NSAIDs and herbal medicines. But as time progressed pain was present even at night and disturbed his sleep.

- After 5 months from the onset of upper limb pain, he started **gradual onset difficulty in swallowing**. He had nasal regurgitation and a cough at the onset of swallowing. His speech was noted to be different by his wife.
- Associated with these symptoms he lost at least 10kg over six months. He had a loss of appetite and malaise also.
- He didn't have cough or hemoptysis, fever, or night sweats. He did not have a prior history or a family history of carcinomas. There was no TB contact history. Rest of his systemic review was unremarkable.
- He used to **smoke about 40 cigarettes per day for 35+ years but has stopped completely 10 years ago**. He does not consume alcohol. And denied any substance abuse.



- He was educated up to **grade 8** and was the sole breadwinner of the family where his 2 children were married and living separately.
- His wife was the main caregiver during this illness who had diabetes and hypertension. Their financial support during the illness was mainly from the children and was not constant.
- He lived in a single-story house where bathroom had to be accessed outside.

- At the time of his assessment he was dependent on a caregiver for feeding via NG . He required assistance in bathing and dressing also but was independent in transferring, toileting, and continence.
- He was not involved in any of the IADLs. His participation in social , family events were completely restricted.
- He never had a fall in the preceding six months but had decreased muscle mass due to cachexia and a mild instability in walking straight. But he did not use a walking aid.

- He **didn't have episodes suggestive of delirium** and was oriented in T/P/P. He was able to list days of the weeks in reverse order. **His cognitive domains prior to this event were intact** and he was functioning within his full capacity.
- During the short admission, with NG and a low mood we did not perform a full cognitive assessment.
- He had reduced food intake over the last 6 months, with a significant **weight loss** which later categorized him as **malnourished** in mini nutritional assessment. He had a liquid diet from home which was **poor in proteins and calories** .

- His **sleep was frequently fragmented** with arm pain.
- His disability and pain and loss of income posed significant stress on his health and he **felt helpless and dissatisfied with life** but had no ideas of suicide.(GDS 2/4)
- His main concern was **loss of income** from his disability and he **didn't have a clear idea about the cause of his illness** at the time of presentation to the hospital.
- He wanted a **cure for pain and requested for a definitive diagnosis and complete cure.**

Examination






- He looked cachectic with a BMI of 18.5 kgm⁻². The patient was conscious and alert but was on an NG tube for feeding. He was able to communicate but with a nasal voice.
- His general examination did not reveal clubbing. There was no lymphadenopathy or pallor or edema.





- CNS examination revealed **right-sided palatal palsy and right-sided Horner's syndrome** as evidenced by partial ptosis and miosis. There was no anhidrosis. The rest of the cranial nerve examination was normal.
- He had **right sided mild intention tremor, past pointing and dysdiadochokinesia** without any nystagmus.
- There was **mild wasting involving thenar eminence of the right hand and a sensory loss corresponding to C8-T1 dermatomal distribution.**
- However, muscle power was intact in upper limbs proximally.
- His lower limb examination revealed mild cerebellar signs on right side and he had difficulty in tandem walking. His gait speed was slow .

- The respiratory system revealed a **patch of bronchial breathing in the right upper zone**. There was no pleural effusion, and the trachea was in the midline.
- CVS and abdominal examination were normal without any evidence of endocarditis or organomegaly.

CFS

CLINICAL FRAILTY SCALE

	1	VERY FIT	People who are robust, active, energetic and motivated. They tend to exercise regularly and are among the fittest for their age.
	2	FIT	People who have no active disease symptoms but are less fit than category 1. Often, they exercise or are very active occasionally , e.g., seasonally.
	3	MANAGING WELL	People whose medical problems are well controlled , even if occasionally symptomatic, but often are not regularly active beyond routine walking.
	4	LIVING WITH VERY MILD FRAILITY	Previously "vulnerable," this category marks early transition from complete independence. While not dependent on others for daily help, often symptoms limit activities . A common complaint is being "slowed up" and/or being tired during the day.
	5	LIVING WITH MILD FRAILITY	People who often have more evident slowing , and need help with high order instrumental activities of daily living (finances, transportation, heavy housework). Typically, mild frailty progressively impairs shopping and walking outside alone, meal preparation, medications and begins to restrict light housework.

	6	LIVING WITH MODERATE FRAILITY	People who need help with all outside activities and with keeping house . Inside, they often have problems with stairs and need help with bathing and might need minimal assistance (cuing, standby) with dressing.
	7	LIVING WITH SEVERE FRAILITY	Completely dependent for personal care , from whatever cause (physical or cognitive). Even so, they seem stable and not at high risk of dying (within ~6 months).
	8	LIVING WITH VERY SEVERE FRAILITY	Completely dependent for personal care and approaching end of life. Typically, they could not recover even from a minor illness.
	9	TERMINALLY ILL	Approaching the end of life. This category applies to people with a life expectancy <6 months , who are not otherwise living with severe frailty . (Many terminally ill people can still exercise until very close to death.)

SCORING FRAILITY IN PEOPLE WITH DEMENTIA

The degree of frailty generally corresponds to the degree of dementia. Common **symptoms in mild dementia** include forgetting the details of a recent event, though still remembering the event itself, repeating the same question/story and social withdrawal.

In **moderate dementia**, recent memory is very impaired, even though they seemingly can remember their past life events well. They can do personal care with prompting.

In **severe dementia**, they cannot do personal care without help.

In **very severe dementia** they are often bedfast. Many are virtually mute.



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Rockwood K et al. A global clinical measure of fitness and frailty in elderly people. CMAJ 2005;173:489–495.

- Our patient had Horner's syndrome, C8-T1 dermatomal sensory loss, sinister upper limb pain with a bronchial breathing patch in the right upper zone of the lung
- Severe malnutrition
- Depression
- Multiple financial and social issues and caregiver dependance.

Diagnostic Assessment

- His Chest x-ray revealed a right apical consolidation, and he underwent both a Contrast CT of the Chest as well as an MRI Brain with Gadolinium contrast.

CECT Chest revealed

- *A diffuse pleural thickening in the apical segment of the right upper lobe with fibrotic changes. Traction bronchiectasis was seen. No adjacent rib erosions. Emphysematous changes were seen in the bilateral upper lobe. No tree in bud appearance suggestive of TB. No lung masses, nodules, or cavitatory lesions. No hilar or mediastinal lymphadenopathy. No B/L pleural effusions.*
- The conclusion of the radiology team was ***diffuse pleural thickening with fibrosis and traction bronchiectasis in the apical segment of the right upper lobe***, possibility of old inflammatory changes. ***No lung mass or evidence of acute infection.***

MRI Brain

- MRI Brain revealed a 1.8 cm **solid contrast-enhancing mass lesion** with perilesional edema in the **right side of the cerebellum** inferiorly near medulla oblongata. The lesion has low T1 and high T2 signal intensity with increased diffusion.
- A similar 3 mm lesion is seen in the **right precentral gyrus** and a 5 mm lesion is seen medial to the trigone of the **right lateral ventricle near the corpus callosum**. No associated enhancement of meninges. The rest of the cerebral hemispheres are normal. The brain stem and the rest of the cerebellum display normal MR morphology.
- The reporting concluded that **MRI appearance is highly suggestive of cerebral metastasis.**

- Hence a diagnostic dilemma became apparent in the presence of cerebellar metastasis in the MRI Brain with CECT Chest not showing evidence of an apical malignancy of the lung.
- His rest of the basic workup for malignancy screening including an ultrasound abdomen and pelvis, UFR, Stool Occult Blood, and PSA levels were normal.
- As a result, a **CT-guided trucut biopsy** of the apical lung lesion was carried out to arrive at a definitive diagnosis.

Histology of CT guided lung biopsy

Microscopy of obtained cores revealed lung tissue with an invasive tumor predominantly arranged in a bronchoalveolar pattern and small cords and strands. The tumor cells displayed enlarged hyperchromatic nuclei and moderate eosinophilic cytoplasm. Mitotic figures are noted. Lymphovascular tumor emboli are not evident. Extensive tumor necrosis is present.

- The conclusion was that *histopathological features were consistent with an **adenocarcinoma of the lung**.*

- Adenocarcinoma with multiple extrathoracic (cerebellar and cerebral) metastasis (M1C) categorized this patient into Stage IVB Non-Small Cell Lung Carcinoma. (Pancoast tumour with horners xd and brain metastases)
- Apart from these investigations, his base line ,electrolytes including calcium and renal functions were normal.
- However our patient had an albumin level of 2.3g/dl reflecting his malnourished state. And a NCNC anaemia.

Performance status

Grade	ECOG
0	Fully active, able to carry on all pre-disease performance without restriction
1	Restricted in physically strenuous activity but ambulatory and able to carry out work of a light or sedentary nature, e.g. light house work, office work
2	Ambulatory and capable of all selfcare but unable to carry out any work activities. Up and about more than 50% of waking hours
3	Capable of only limited selfcare, confined to bed or chair more than 50% of waking hours
4	Completely disabled. Cannot carry on any selfcare. Totally confined to bed or chair
5	Dead

Therapeutics

- The main considerations our patient had were
 - persistent severe upper limb pain keeping him awake at night (pain score 8/10)
 - severe acute malnutrition with negative protein balance having lost more than 12kg over the last six months. This was further exacerbated by palatal palsy causing difficulty in swallowing requiring NG feeds.
- He was referred to the **pain clinic** where he was prescribed **oral morphine** and gabapentin with dose up titrations as required for breakthrough pains. But we **had difficulty in getting a supply of liquid form of morphine to provide vi NG**
- A **Nutritional assessment** was done. And their nutritional goals were to provide 45kCal/kg of energy and 1.8g/kg of protein per day.. His liquid diet was supplemented with **isotonic formula for tube feeding and high-quality soluble whey protein powder** .

- **IV Dexamethasone** was started because of multiple cerebral metastases.
- Sertraline was started at a lower dose (12.5mg) planning to up titrate gradually with electrolyte monitoring.
- Meanwhile, the patient's **lung biopsy specimens were sent to be tested for EGFR status which would provide prognosis as well as therapeutic options in chemotherapy with targeted Tyrosine Kinase inhibitor (TKi) therapy.**

Further plan

- A multidisciplinary meeting was held between the respiratory team and oncology team
- **Whole brain radiotherapy** was planned from cancer institute. Also, **palliative radiotherapy to the lung** was planned as the patient was having pain due to brachial plexus involvement. Meanwhile, the patient's lung biopsy specimens were sent to be tested for **EGFR status which would provide prognosis as well as therapeutic options in chemotherapy with targeted Tyrosine Kinase inhibitor (TKi) therapy.**
- A family meeting was held, and these plans were discussed with the patient.

- Our patient did not wish to proceed with radiotherapy and further treatment. He understood the nature of his illness and treatment options after careful explanation, and despite having depressed mood, and dysarthria he was able to strongly convey and deny any further treatment and refused for follow up at CIM.
- There was no coercion from his family.
- He **left against medical advice to pursue ayurvedic/ indigenous medicine treatment expecting a 'complete cure' and did not return to follow up.**

Cancer care in Sri Lanka

- Cancer is by and large a disease of aging, as more than 50% of all malignancies occur in individuals over 65 years.

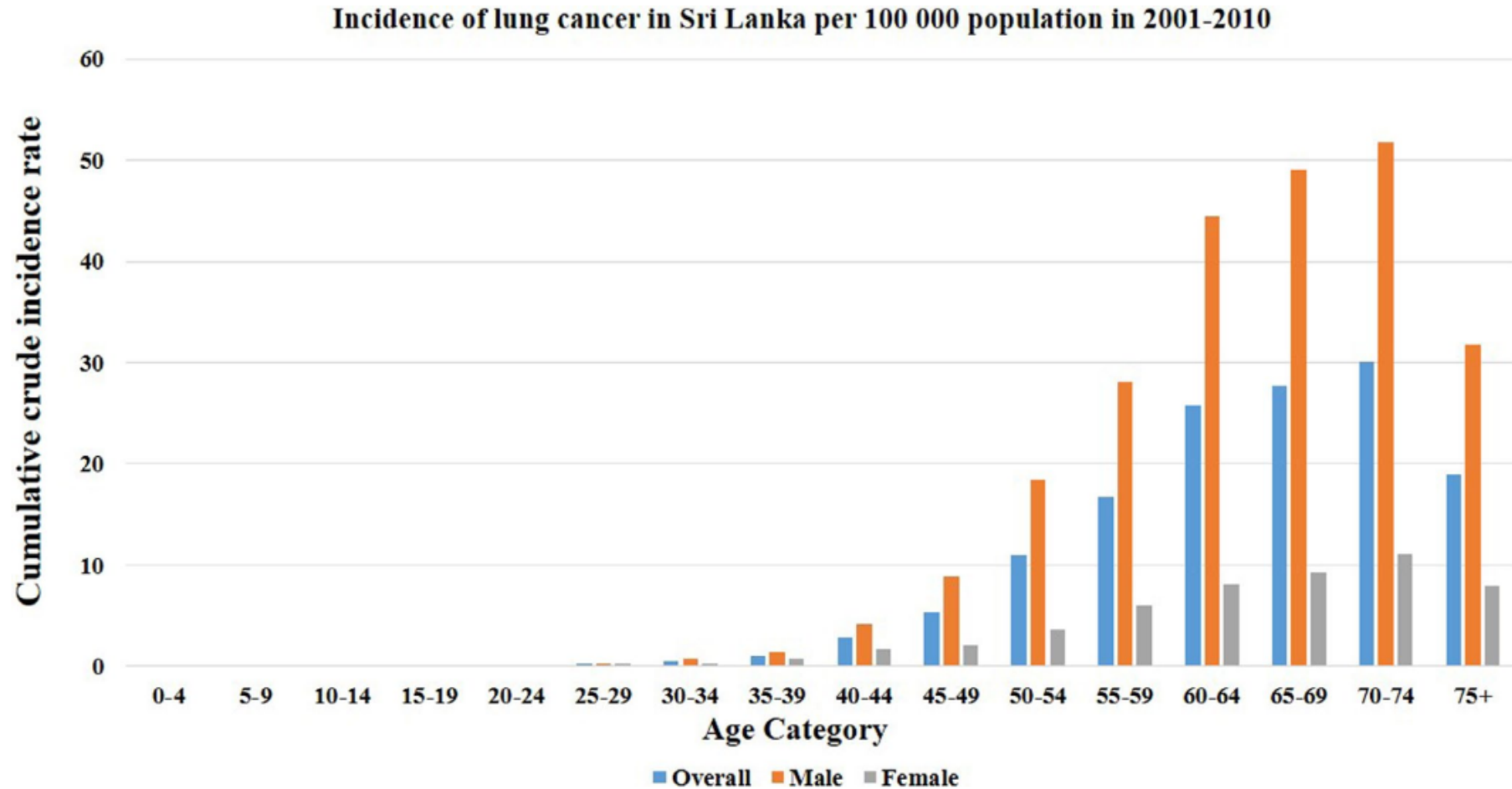


FIGURE 1 Incidence of lung cancer with age (per 100,000 population).

- Cancer incidence is rising, more in females than males

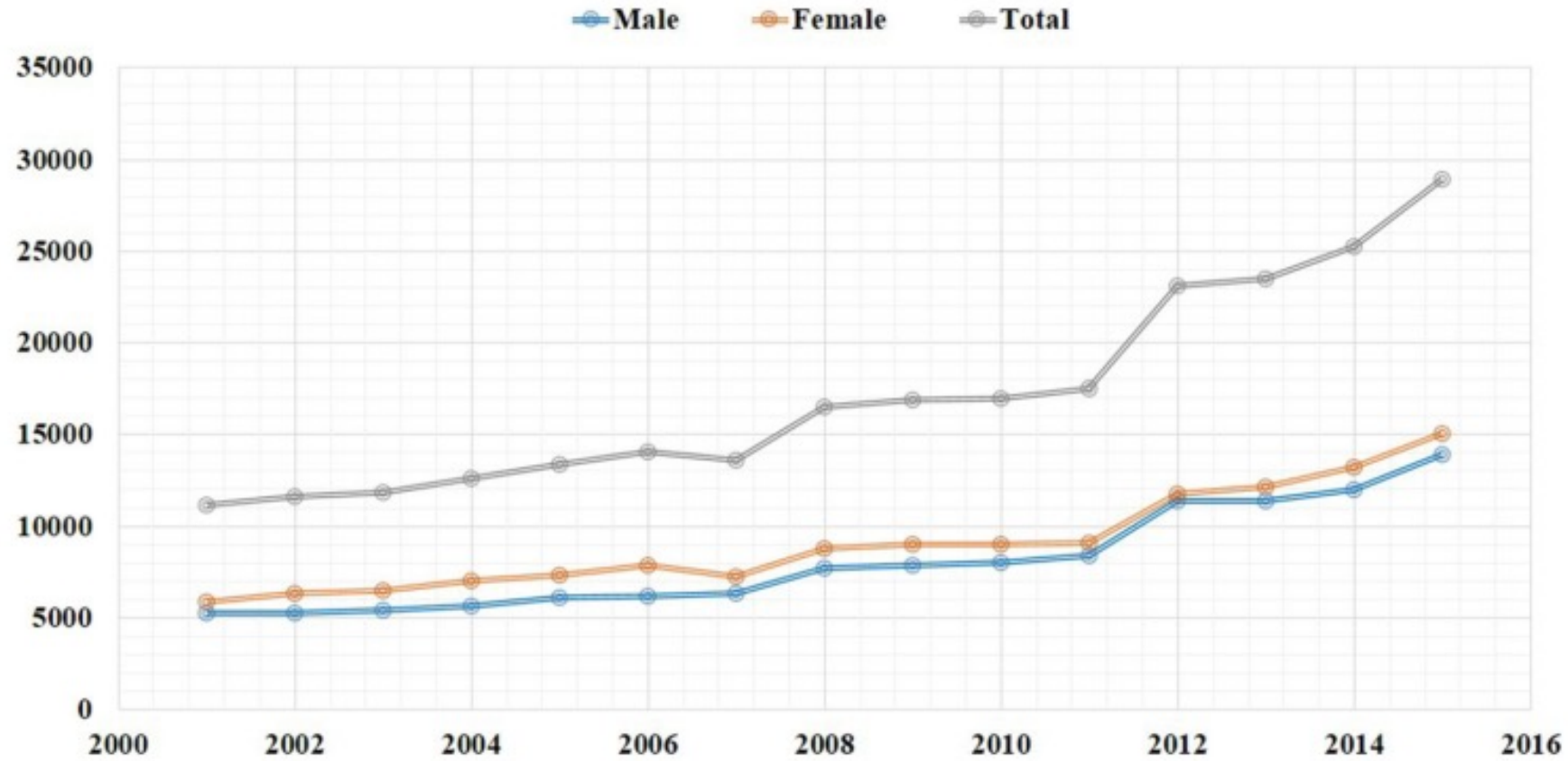



Fig. 1 The total number of cancers detected from 2001 to 2015

Prognosis of our patient

- According to the TNM staging, he had multiple extrathoracic metastases in the brain placing him in **Stage IVB which has the worst prognosis with a median survival of 6 months.**
- Among **Pancoast tumors presence of Horner's syndrome, is a poor prognosis.**
- And the **general prognosis is poor for any cancer patient with a weight loss of more than 5 %** (our patient had more than 10 %) and poor performance status.

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Stigma associated with a diagnosis of cancer

- This can result in patients seeking treatment **from distant oncology units** rather than the closest to them geographically.
- Many patients and families still **equate a diagnosis of cancer to an inevitable death** which results in early abandonment of treatment.

RESEARCH ARTICLE

Open Access

Palliative care in South Asia: a systematic review of the evidence for care models, interventions, and outcomes

Taranjit Singh^{1*} and Richard Harding²

Abstract

Background: The increasing incidence of cancer and chronic diseases in South Asia has created a growing public health and clinical need for palliative care in the region. As an emerging discipline with increasing coverage, palliative care must be guided by evidence.

In order to appraise the state of the science and inform policy and best practice in South Asia this study aimed to systematically review the evidence for palliative care models, interventions, and outcomes.

Results: The search identified only 16 articles, reporting a small range of services. The 16 articles identified India as having greatest number of papers ($n = 14$) within South Asia, largely focused in the state of Kerala. Nepal and Pakistan reported a single study each, with nothing from Bhutan, Afghanistan, Maldives or Bangladesh. Despite the large population of South Asia, we found only 4 studies reporting intervention outcomes, with the remaining reporting service descriptions ($n = 12$).

Conclusions: The dearth of evidence in terms of palliative care outcomes, and the lack of data from beyond India, highlight the urgent need for greater research investment and activity to guide the development of feasible, acceptable, appropriate and effective palliative care services. There is some evidence that suggests implementation of successful and well-developed community based models of palliative care may be replicated in other resource limited settings. Greater investigation to determine outcomes and costs are urgently needed, and require well-designed and validated tools to measure outcomes. Studies are also needed to better understand the cultural context of death and dying for patients and their families in South Asia, and to respond to the growing need for palliative and end-of-life care in the region.

Keywords: Palliative care, Systematic review, End-of-life, Terminal, Asia, South Asia, Palliative care models

Palliative care

- Palliative care services are only provided through few major cancer referral centers in Sri Lanka. They cannot fully cater to the growing need of patients like ours who remain in medical/surgical wards of local hospitals.
- A community-based palliative care service with adequate resources would improve the quality of life in these patients
- Narcotic analgesics such as oral morphine, which are currently restricted due to the fear of abuse, could be made available through these dedicated centers.

Morphine use in Sri Lanka

- Although morphine is readily available in all oncology treatment centres and all consultant oncologists are authorized to prescribe, overall utilization rates are very low.
- The annual **national opioid utilization rate is 1.2 mg/capita morphine equivalence.**
- Although this is superior to its South Asian neighbours (India 0.54 mg/capita, Pakistan 0.05 mg/capita, Bangladesh (0.63 mg/capita),
- **Sri Lankan utilization lags far below the global mean of 61.49 mg/capita morphine equivalence .**
- **Non-availability of liquid forms of morphine** is also a major problem among those patients with swallowing difficulties.

TCAM



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Public Health

journal homepage: www.elsevierhealth.com/journals/pubh



Original Research

The use of traditional, complementary and alternative medicine in Sri Lankan cancer care: Results from a survey of 500 cancer patients

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Medical pluralism in Sri Lanka

- The Sri Lankan people have largely embraced biomedicine, but support continues for a huge variety of practices including **Ayurveda, Sinhala, Unani, Siddha, homeopathy and traditional religious practices (e.g. devil dancing, faith healing, spiritual healing)**
- While Ayurveda and biomedicine remain the only state funded practices, the private sector consists of practitioners in all types of medicine, levels of training and regulation.

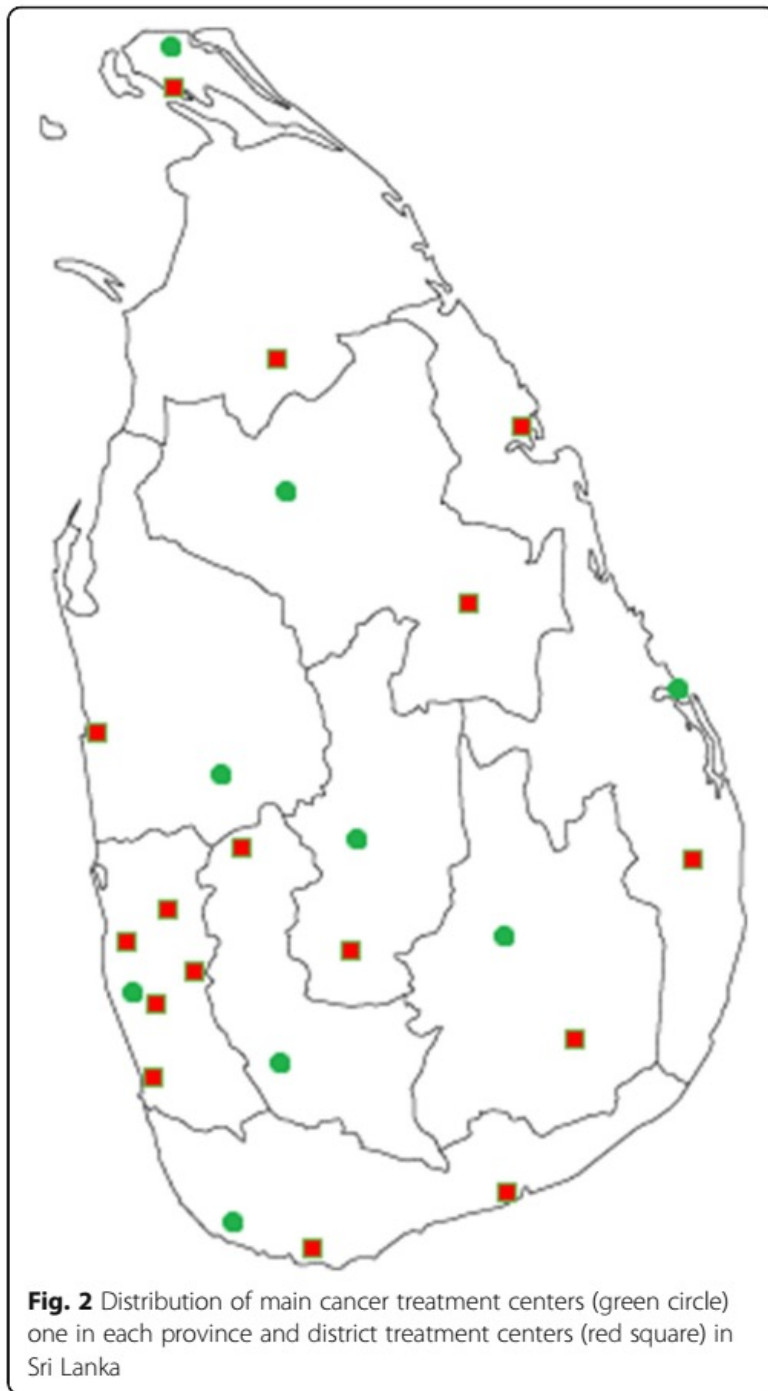


Fig. 2 Distribution of main cancer treatment centers (green circle) one in each province and district treatment centers (red square) in Sri Lanka

Table 1 – Use of traditional, complementary and alternative medicine (TCAM) for cancer and for general health.

Practitioner groups	Reasons for TCAM use		
	Cancer %	General health %	Total %
Ayurveda medicine	21.3	26.0	38.2
Sinhala medicine	45.0	31.1	50.8
Traditional religious practices	29.2	19.6	36.0
Unani medicine	0.2	0.4	0.4
Pranic healing	1.0	0.6	1.2
Meditation	2.2	0.8	2.6
Holistic medicine	0.6	1.8	2.4
Homeopathy	0.0	2.0	2.0
Yoga	1.8	0.0	1.8
Acupuncture	0.0	1.0	1.0
Herbal medicine	0.2	0.0	0.2

Reasons for using TCAM

- 67% used ayurvedic or indigenous medicine as an adjunct to western cancer therapy.
- 95% of respondents believing **that it would cure their cancer** and the importance of family and friends in pathways to TCAM use.
- many viewed it as **cheaper than biomedical treatment and had found it difficult to get to a hospital or to see a doctor.**

Issues with TCAM

- **Potential delays** (related to TCAM use) in help-seeking, and thus diagnosis and treatment, during this critical period
- **Toxicities** of some traditional therapies and interaction with chemotherapy is unknown.

Frailty in a patient with cancer

Frailty and Cancer: Current Perspectives on Assessment and Monitoring

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Frailty evaluation and CGA in cancer care

- Chemotherapy intolerance
- Post op complications
- the potential for rehabilitation after therapy,
- chance of discontinuing treatment due to toxicity.
- Morbidity and mortality

Hence **American Society of Clinical Oncology** recommends a **comprehensive geriatric assessment (CGA)** to be carried out on all cancer patients above 65 years of age.

Grade	ECOG
0	Fully active, able to carry on all pre-disease performance without restriction
1	Restricted in physically strenuous activity but ambulatory and able to carry out work of a light or sedentary nature, e.g. light house work, office work
2	Ambulatory and capable of all selfcare but unable to carry out any work activities. Up and about more than 50% of waking hours
3	Capable of only limited selfcare, confined to bed or chair more than 50% of waking hours
4	Completely disabled. Cannot carry on any selfcare. Totally confined to bed or chair
5	Dead

Validity of Performance Scores

- Poor ECOG PS numbers may be observed in **already chronically ill patients** with severe pre-existing diseases (eg, terminal COPD, progressive Parkinson disease) as well as in **otherwise healthy patients but with acute symptomatic cancer** illness (eg, cancer fatigue, cancer pain, acute infection).
- However, good ECOG PS numbers do not rule out the existence of **chronic and clinically relevant vulnerabilities in older patients (eg, tendency to fall, mild cognitive impairment, inappropriate polypharmacy)**.
- The capacity of ECOG PS to predict chemotherapy toxicity in older cancer patients is low.

SIOG Recommendations^{17,18} (for All Cancer Patients ≥ 70 Years)	ASCO Guidelines¹⁹ (for Cancer Patients ≥ 65 Years with Chemotherapy)
Frailty Screening <ul data-bbox="84 672 318 886" style="list-style-type: none">● G8● TRST● VES-13	<ul data-bbox="1072 672 1307 808" style="list-style-type: none">● G8● VES-13

G8 questionnaire

	Items	Possible answers (score)
A	Has food intake declined over the past 3 months due to loss of appetite, digestive problems, chewing or swallowing difficulties?	0 : severe decrease in food intake
		1 : moderate decrease in food intake
		2 : no decrease in food intake
B	Weight loss during the last 3 months	0 : weight loss > 3 kg
		1 : does not know
		2 : weight loss between 1 and 3 kgs
		3 : no weight loss
C	Mobility	0 : bed or chair bound
		1 : able to get out of bed/chair but does not go out
		2 : goes out
E	Neuropsychological problems	0 : severe dementia or depression
		1 : mild dementia or depression
		2 : no psychological problems
F	Body Mass Index (BMI (weight in kg) / (height in m ²))	0 : BMI < 19
		1 : BMI = 19 to BMI < 21
		2 : BMI = 21 to BMI < 23
		3 : BMI = 23 and > 23
H	Takes more than 3 medications per day	0 : yes
		1 : no
P	In comparison with other people of the same age, how does the patient consider his/her health status?	0 : not as good
		0.5 : does not know
		1 : as good
		2 : better
	Age	0 : >85
		1 : 80-85
		2 : <80
TOTAL SCORE		0 – 17

	G8
High-risk score	≤ 14
Questions	<ul style="list-style-type: none"> • 8 items • Age, appetite, weight loss, mobility, mood and cognition, body mass index, medications, and perceived health status
Pros	<ul style="list-style-type: none"> • Quick • Easy to administer • More sensitive
Cons	<ul style="list-style-type: none"> • Less specific

- Frailty is not a static biomarker rather becomes dynamic in the remainder of the patient's lifespan.

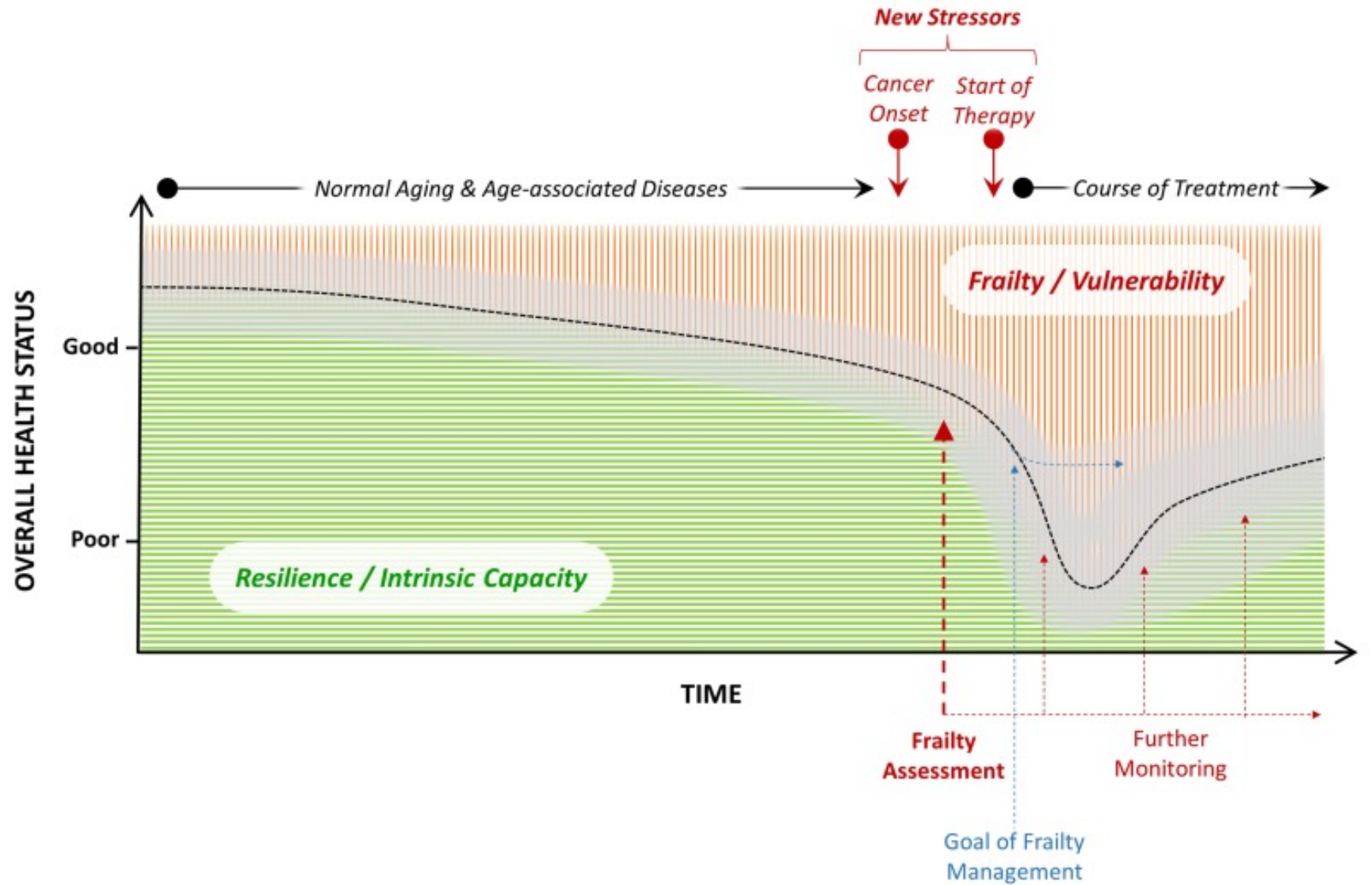


Figure 1 Illustration of the general concept, impact, assessment, management, and monitoring of frailty in older adults with cancer (red area represents the magnitude of a patient's frailty and green area represents his/her intrinsic capacity at a given point in time, respectively; the black dotted curve reflects the overall health status at specific time points, with the gray band indicating inter-individual variance).



Nutritional intervention

- Apart from cancer-related pain, our patient's main problem revolved around nutrition as he had dysphagia, loss of appetite, and a significant weight loss as well as an aspiration risk. **Despite his life-limiting illness, his nutritional needs were actively managed.**
- And the evidence for this approach can be seen in a systematic review and a metaanalysis done by the **American Society of gastroenterology among malnourished cancer patients.** It showed that **nutritional interventions improve the quality of life in such patients and help weight gain and energy intake despite not having any significant mortality benefit.**

In our patient

- Cancer should have been suspected
- Access to investigations and delays in diagnosis
- TCAM availability with claims of ‘Complete cure’
- Depression and *fatalism*
- Palliative care access and symptom control
- Frailty assessment and CGA
- Loss of income and caregiver dependance
- Health literacy

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