# SILIVIANEWS

THE OFFICIAL NEWSPAPER OF THE SRI LANKA MEDICAL ASSOCIATION





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## **EFFICACY**

The golden poison dart frog from Columbia, considered the most poisonous creature on earth, is a little less than 2 inches when fully grown. Indigenous Emberá, people of Colombia have used its powerful venom for centuries to tip their blowgun darts when hunting, hence the species' name. The EFFICACY of its venom is such that it can kill as much as 10 grown men simply by coming into contact with their skin.

Knowing the importance of EFFICACY in the world of medicine, GSK, after years of research and development, developed Augmentin, the antibiotic with a high EFFICACY rate in healing people.









#### October/November, 2014 Volume 07 Issue 08



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Sri Lanka Medical Association, No.06, Wijerama Mawatha, Colombo 07,



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Tele: +94 112 693324 E mail - slma@eureka.lk

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516,Sri Sangaraja Mawatha Colombo 10 , Sri Lanka

Tele: +94 113 054140 viduranga@thissource.com

October/November, 2014 SLMANEWS

### President's message

uring the past two weeks I had received a number of calls and letters from sister/ brother medical organizations and allied bodies such as the Institution of Engineers, the Organization of Professional Association requesting urgent action to get the gazette Notification published on 31 January 2014 amending the Rules made under Section 137 of the University Act No. 16 of 1978 rescinded. For the information of our members, the opinion of all the experts is that the implications of this amendment of the Gazette could be far reaching. Therefore the SLMA represented matters to His Excellency the President who assured us that he would give instructions to relevant officials of the Ministry of Higher Education to modify this immediately. The legal Draughtsman informed us that he had sent the amended formulation to the Secretary of the Ministry of Higher

Education as early as May 2014. But somehow this did not happen and the SLMA wrote two letters urging immediate action to the Secretary, Ministry of Higher Education as well as to the Secretary to His Excellency the President. It was in this background that the SLMA convened a meeting of the Interested Parties on the 4th of November to discuss further action. At a well attended meeting, where the SLMC also participated, and after a very wide ranging discussion, the group decided to send a joint letter to the Secretary of the Ministry of Higher Education. If no action is forthcoming even after this, they suggested further assertive action, which would include a representation to His Excellency the President and a press conference. Members are welcome to submit any comments or suggestions to the SLMA office. This matter potentially could have rather significant implications for quality control of medical education and the SLMA will be alert to the developments along with our colleagues in other organizations.

The next month will see the SLMA Dinner- Dance on 13th December which is a cherished tradition of our Association and it is my pleasure to invite all the members and their guests to join this festive event. It is, in fact, more than a mere Dinner and a Dance, but a much looked forward to celebratory event and a night of fellowship in the medical calendar. The Committee headed by the two Social Secretaries. Prof Vajira H W Dissanayake and Dr Preethi Wijegoonewardene, have assured me that it will be an event to remember and going by what they delivered at the Doctors' Concert we can expect a memorable night.

Dr Palitha Abeykoon President, SLMA

## Dr. Firdosi Rustom Mehta- The First Honorary Fellow of the Sri Lanka Medical Association

r. Firdosi Rustom Mehta- The First Honorary Fellow of the Sri Lanka Medical Association

Dr. Firdosi Rustom Mehta, World Health Organization representative for Sri Lanka since 2009 who reached the end of a prestigious career of 30 years in Public Health service was honoured with his induction as the very first Honorary Fellow of the Sri Lanka Medical Association.

Over the 127 years that SLMA has served the country this is the first time SLMA has inducted a fellow.

The council of the Sri Lanka Medical Association inducted Dr. F R Mehta as a fellow "in recognition and appreciation of his much valued contribution to the medical profession in Sri Lanka" on the 30th of September 2014.

His experience in emergency and humanitarian affairs. communicable

disease control, health system issues and now a keen focus on addressing non communicable diseases in Sri Lanka is well known and acknowledged. He has authored and co-authored several scientific publications in peer reviewed journals. His efforts of building bridges amongst the different stakeholders in health care service provision are well recognized and were timely at this stage of epidemiological transition and rapid social economic development in Sri Lanka.

The function was held at the Lionel Memorial Auditorium of the SLMA and the occasion was graced by many leading professionals in the country and they were all very delighted at the presence of Dr. Mehta's family members.

It was a memorable event historically and emotionally and the night ended with the reception.







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## Dr. Firdosi Rustom...



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# Citation of Dr Firdosi Rustom Mehta, on the occasion of his conferment as an Honorary Fellow of the Sri Lanka Medical Association

#### As presented by Dr B J C Perera, the Immediate Past President, SLMA

itation of Dr Firdosi Rustom Mehta, on the occasion of his conferment as an Honorary Fellow of the Sri Lanka Medical Association as presented by Dr B J C Perera, the Immediate Past President of SLMA

Dr Palitha Abeykoon, President of the Sri Lanka Medical Association, The Chairperson and Members of the Board of Trustees of the SLMA, Honorary Life Members of SLMA, Past-Presidents of SLMA, Members of the Council of SLMA, Life Members and Ordinary Members of the SLMA, Distinguished Invitees.

I am deeply honoured to have been requested to present to you, Dr Firdosi Rustom Mehta, The World Health Organisation Representative to Sri Lanka, for the conferment of Honorary Fellowship of The Sri Lanka Medical Association.

The gentleman is only too well known, throughout this resplendent emerald isle of ours, inside the medical circles, and even outside of it. Still for all that, one could reel off volumes about such a persona grata. Much as I would have liked to have done just that, in the face of time constraints, I would be able to present only a bird's eye view of the man.

Dr Mehta obtained his basic MBBS degree from the Armed Forces Medical College, Pune, Maharashtra State in India. Following that, he was awarded the Diploma in Social and Preventive Medicine from the National Board of Examinations, New Delhi, India and subsequently he was the worthy recipient of a postgraduate degree in public health in the form of a doctorate in Preventive Medicine from the Armed Forces Medical College, Pune, India.

He is a Public Health Professional

with over 30 years experience at country and field levels, in a myriad of diverse national situations, spanning across different continents. Around half of this has been with the World Health Organization. He can justifiably boast of several decades of experience in Communicable Diseases, Public Health, Non-Communicable Diseases, Health Systems, together with familiarity with Emergency and Humanitarian work. Indeed, a connoisseur of quality service to humanity.

His work in academia has also led to several publications in reputed and acclaimed journals including Transactions of the Royal Society of Tropical Medicine and Hygiene, Journal of Infectious Diseases, Middle East Paediatrics, American Journal of Tropical Medicine and Hygiene, Tropical Medicine and International Health, Human Resources for Health. International Journal of Infectious Diseases, International Journal of Hypertension, and the most prestigious New England Journal of Medicine. A glittering array of scholarly publications indeed, if ever there were any.

Dr Mehta has excellent communication and presentation skills and unmatchable leadership aptitudes, all developed through working at different levels in many a government and United Nations System. He is in possession of excellent analytical and management attributes, developed from years of experience, and has amply demonstrated an unbridled commitment to leading teams by example. A splendid team player and a motivated good listener, he is blessed with a commendable ability to translate things on paper, into action. He is perhaps best described as a strong believer in accomplishment rather than intention.

Having seen, known, and listened to the man for quite a while, I believe that teaching would have come naturally to him. He will hold the attention of any audience, even for hours. In fact he has been involved in teaching duties in several countries. It is perhaps no surprise therefore to note that he has held the position of a Visiting Professor at one of our own Universities, the one in Kelaniya.

His commitment towards any cause, that he has set his heart on, is undoubtedly one hundred percent. He has been the embodiment of what it is to be a personal friend, a friend of the SLMA, and even more importantly, a friend of Sri Lanka. Our country has had many a friend. This man however, stands out as someone who really and most genuinely cared for Sri Lanka. I for one, would be somewhat sad to see the chair of WR not being occupied by him. I am quite sure that an awful lot of you here today will feel the same.

From a personal perspective, I have always identified him as a very amiable man, indeed, a man for all seasons. Like the original, Sir Thomas More, the Lord Chancellor of England in the 16th century, who had the bravado and the spirit to even stand up to his own King, Dr Mehta could only be described as someone renowned for his integrity and moral fibre, an individual of such high calibre, the personification of what it means to be a man. No matter the circumstance or the time, he would rise to the challenges of being the man providence has created him to be.

Dr. Mehta, I am sure that you and your lovely family that is here today will always remember this day of pomp and pageantry as a very special occasion, when you were conferred

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#### Citation of...

one of the sublime honours that the Sri Lanka Medical Association can bestow on a deserving personality.

I have been told that this is indeed the first time that your entire family has been there for an occasion like this.

I would like to welcome them in your own language swagat ahe, namaskar. It goes without saying that they must surely be so very proud of you. Yet for all the importance of the occasion and in lighter vein, Dr. Mehta, you have often quipped about the considerable number of times you have had to light the lamp of learning in Sri Lanka. We got you to do that once again today. You must have got used to it so much that, in the future, if you are there, the lamp is there, and you are not invited to light it, you will surely feel that something is indeed a little bit amiss. However, I believe that you will

find a quaint and charming little thing like that missing in the climes of the Western world that you will be domiciled in, after you leave our shores.

Mr. President, Ladies and Gentlemen, it is time now., I am delighted and feel greatly privileged to present to you, Dr. Firdosi Rustom Mehta for the conferment of the coveted Honorary Fellowship of the Sri Lanka Medical Association.

# Joint Foundation Sessions of the SLMA with Kandy Society of Medicine 2014

he Joint Foundation Sessions of the Sri Lanka Medical Association with the Kandy Society of Medicine (KSM) was held on the 16th and 17th of October, 2014, at the Oak Ray Regency, Kandy. Inauguration of the Joint Foundation Sessions and the E M Wijerama Endowment Lecture were held on 16th October at 6.30pm.

Commencement of the Inauguration Ceremony was marked by the Ceremonial Procession. After the lighting of the oil lamp Dr. G S Edirisinghe, President, KSM and Dr. Palitha Abeykoon, President, SLMA addressed the gathering and invited the Chief Guest Dr B J C Perera, immediate past president of the SLMA to deliver his speech. Dr B J C Perera delivered a very constructive and entertaining lecture. Following the address by the Chief Guest, the Guest of Honour, Prof. Eugene Wickramanayake, who is a past president of KSM addressed the gathering. This was followed by the award ceremony for the winners of the SLMA Best Research Awards. The SLMA Best Health Journalist Awards were presented to Lakbima Newspapers and Thinakkural Publications. Following the presentation of the awards, Dr Ruvaiz Haniffa, Secretary, SLMA delivered the Vote of



Thanks.

The E M Wijerama Endowment Lecture was delivered by Dr Preethi Wijegoonewardene on the topic "Protect the Values of a Noble Profession" giving examples from the life of Dr E M Wijerama.

This was followed by a time of fellowship.

On 17<sup>th</sup> of October KSM Health Research Prize Oration was delivered by Prof R Sivakanesan on lipids and cardiovascular risk.

Following the tea break Dr Lalith Wijeratne, Consultant Rheumatologist delivered a lecture on Low Back Pain – Clinician's Perspective. This was followed by a symposium-oriented in-

teractive session on 'Abdominal Pain', where the surgical aspects were discussed by Dr Sanjaya Abeygunawardene, Consultant Gastroenterological Surgeon, while the paediatric aspects were discussed by Prof Chandra Abeygunawardene, Professor in Paediatrics. The radiological aspects and the psychiatric aspects were dealt with by Consultant Radiologist, Dr Lalith Gamage and Consultant Psychiatrist, Dr Gihan Abeywardene, respectively. Subsequent to this interactive session, Dr Tiran Dias, Senior Lecturer in Obstetrics and Gynaecology and Accredited Fetal Medicine Specialist, delivered a lecture on the "Role of Fetal Medicine in Modern Obstetrics".

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#### Joint Foundation...

After the lunch break the Sir Marcus Fernando Oration was delivered by Professor Athula Sumathipala, Professor of Psychiatry, Faculty of Health, Keele University, United Kingdom, on "Depression: Addressing The Local Burden In The Context Of Global Mental Health".

A lecture on "Cosmetic Medicine and

Aesthetic Surgery in Sri Lanka" was delivered by Dr Thushan Beneragama, Consultant Plastic Surgeon. Following that Dr Shyama Arambepola, Consultant Psychiatrist talked about managing stress, which was a very useful topic to almost everyone seated in the audience. Final lecture of the session was delivered by Consultant Virologist Dr Sunethra Gunasena on the current Ebola virus outbreak.

The Joint Foundation Sessions of The Sri Lanka Medical Association with Kandy Society of Medicine this year was a huge success and strengthened the bonds between the SLMA and KSM.





































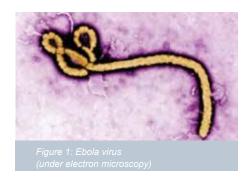
## Ebolavirus outbreak: An update

Compiled by Dr Viraj Thilakarathna, Demonstrator & Professor Jennifer Perera, Chairperson, Expert Committee on Communicable Diseases, Sri Lanka Medical Association.

Proceedings of the symposium on "Ebolavirus out break: An update" held on 22nd September 2014. The resource persons were Dr Sunethra Gunasena, Consultant Virologist, Medical Research Institute, Colombo and Dr Samitha Ginige, Consultant Epidemiologist, Epidemiology unit, Ministry of Health.

#### Ebola virus

Ebola virus is an enveloped virus with a negative sense single strand RNA genome. It belongs to the genus Filovirus, family Filoviridae. There are five identified subspecies of Ebola virus. Four of the five have caused disease in humans (Zaire, Sudan, Ivory Coast, Bundibugyo,). The fifth (Reston), has caused disease in non-human primates, but not in humans.



## Ebola virus disease (EVD): History of outbreaks

Ebola virus disease is a severe, often fatal illness (case fatality rate up to 90%), in humans and non-human primates (such as monkeys, gorillas, and chimpanzees). The disease typically occurs in outbreaks in tropical regions of Sub-Saharan Africa. The largest outbreak to date is the ongoing 2014 West Africa Ebola virus outbreak, which is affecting Guinea, Sierra Leone, Liberia and Nigeria. As of March 2014 to present, 8997 confirmed, probable, and suspected cases have been identified, with 4493 deaths.

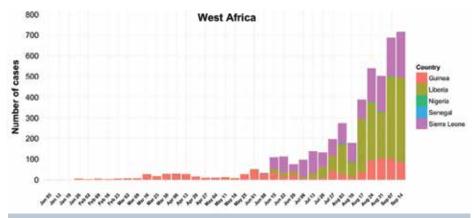


Figure 2.Epi curve – 2014 ebola outbreak

The disease was first identified in 1976 in two simultaneous outbreaks, one in a village near the Ebola River in the Democratic Republic of Congo with 318 cases and 280 deaths (a 88% case fatality rate), and the other in a remote area of Sudan affecting 284 people and killing 151.

The second major outbreak occurred in 1995 in the Republic of Congo, affecting 315 and killing 254. The next major outbreak occurred in Uganda in 2000, affecting 425 and killing 224. In this case the Sudan virus was found to be the Ebola virus species responsible for the outbreak. In 2003 there was an outbreak in the Republic of Congo that affected 143 and killed 128, a case fatality rate of 90%, the highest to date. The outbreak that occurred in 2007 in the Republic of the Congo affected 264 individuals and resulted in 187 deaths. The outbreak of Ebola in the Western Uganda in 2007 confirmed the presence of a new species of Ebolavirus, which was tentatively named Bundibugyo. The WHO reported 149 cases of this new strain and 37 of those affected died. The WHO confirmed two small outbreaks in Uganda in 2012. The first outbreak affected 7 people and resulted in the death of 4 and the second affected 24, resulting in the death of 17. The Sudan variant was responsible for both outbreaks.

In 2012, the Republic of the Congo reported an outbreak of the Ebola-Bundibugyo variant in the eastern region. Other than its discovery in 2007,

this was the only time that this variant has been identified as the Ebola virus responsible for an outbreak. The WHO revealed that the virus had sickened 57 people and claimed 29 lives.

#### The current outbreak

The largest outbreak to date is the ongoing 2014 West Africa Ebola virus outbreak, which is affecting Guinea, Sierra Leone, Liberia and Nigeria. First cases were notified in March 2014. A total of 8997 confirmed, probable, and suspected cases of Ebola virus disease (EVD) have been reported in 7 affected countries (Guinea, Liberia, Nigeria, Senegal, Sierra Leone, Spain, and the United States of America) up to 12 Oct, 2014. There have been 4493 deaths. On August 8, the WHO Director-General declared this outbreak a Public Health Emergency of International Concern.

#### **Transmission**

Although the natural reservoir host of Ebola viruses remains unknown researchers believe that the virus is zoonotic (animal-borne) with fruit bats being the most likely reservoir. Bats drop partially eaten fruits and mammals (gorillas, monkeys) eat those fruits and become infected. Ebola is introduced into the human population through close contact with the blood, secretions, organs or other bodily fluids of infected animals such as chimpanzees, gorillas, fruit bats, monkeys, forest antelope and porcupines found ill or dead or in the rainforest.

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#### Ebolavirus ...

Ebola then spreads through humanto-human transmission via direct contact (through broken skin or mucous membranes) with the blood, secretions, organs or other bodily fluids of infected people, and with surfaces and materials (e.g. bedding, clothing) contaminated with these fluids.

Health-care workers have frequently been infected while treating patients with suspected or confirmed EVD. This has occurred when infection control precautions are not strictly practiced. Burial ceremonies in which mourners have direct contact with the body of the deceased person can also play a role in the transmission of Ebola.

People remain infectious as long as their blood and body fluids, including semen and breast milk, contain the virus. Men who have recovered from the disease can still transmit the virus through their semen for up to 7 weeks after recovery from illness. Clinical features

The incubation period is 2 to 21 days. Humans are not infectious until they develop symptoms. First symptoms are quite nonspecific with sudden onset of fever fatigue, muscle pain, headache and sore throat. This is followed by vomiting, diarrhoea, rash, symptoms of impaired kidney and liver function, and in some cases, both internal and external bleeding (e.g. oozing from the gums, blood in the stools).

#### **Diagnosis**

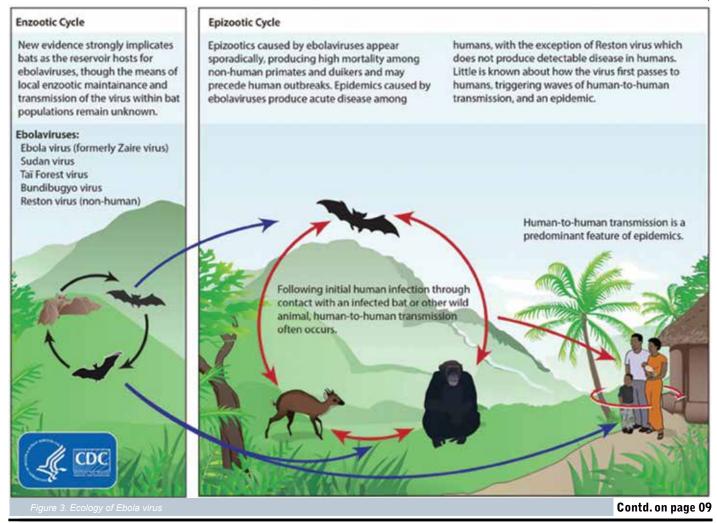
It can be difficult to distinguish EVD from other infectious diseases such as malaria, typhoid fever and meningitis. Confirmation that symptoms are caused by Ebola virus infection are made using the following investigations:

- Virus detection by Electron Microscopy
- Antigen detection
- Genome detection by PCR
- Virus isolation
- Antibody (IgM / IgG) detection

Samples from patients are an extreme biohazard risk. Therefore laboratory testing on non-inactivated samples should be conducted under maximum biological containment conditions.

#### **Challenges in laboratory diagnosis**

EVD is a severe disease with a high case fatality rate following exposure. There is a high risk to laboratory staff as it is highly infectious. As there is no vaccine or specific treatment available yet, Ebola virus is considered as a WHO risk group 4 organism as it usually causes serious human or animal disease and that can be readily transmitted from one individual to another.



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#### Ebolavirus ...

directly or indirectly. Therefore any work with the live virus needs maximum level containment facility.

All manipulations such as handling, processing, testing should be performed inside a biosafety level 3 (BSL 3) cabinet with full personal protective equipment (impermeable gown, particulate respirators, face shield, double gloves, bootsetc.). Inactivation of specimens is essential for tests in non-closed systems. Inactivation can be done by heating at 60°C for 90 min or treatment with the non-ionic detergent Triton X-100 at a final concentration of 0.25% or by exposure to gamma radiation (1.27 x 10e6 Rad). Inactivation is not essential for closed system biochemical / haematological analyzers.

During transport, specimen containers should be wiped with bleach, placed in double-bags that contain absorbent pads soaked with bleach and placed separately in a rigid plastic, impervious container. Long-term storage of specimens is not permitted for any suspect EVD patient. All specimens should be incinerated or autoclaved prior to disposal.

#### **Prevention and control**

Good outbreak control relies on applying a package of interventions, namely case management, surveillance and contact tracing, a good laboratory service, safe burials and social mobilisation. Community engagement is the key to successfully controlling outbreaks. Raising awareness of risk factors for Ebola infection and protective measures that individuals can take is an effective way to reduce human transmission.

### Risk reduction messaging should focus on several factors:

Reducing the risk of wildlife-to-human transmission from contact with infected fruit bats or mon-keys/apes and the consumption of their raw meat.
 Animals should be handled with gloves and other appropriate protective clothing. Animal products

(blood and meat) should be thoroughly cooked before consumption.

- Reducing the risk of human-to-human transmission from direct or close contact with people with
  Ebola symptoms, particularly with their bodily
  fluids. Gloves and appropriate personal protective equipment should be worn when taking care
  of ill patients at home. Regular hand washing is
  required after visiting patients in hospital, as well
  as after taking care of patients at home.
- Outbreak containment measures including prompt and safe burial of the dead, identifying people who may have been in contact with someone infected with Ebola, monitoring the health of contacts for 21 days, separating the healthy from the sick to prevent further spread, and good hygiene and maintaining a clean environment should be adhered to.

## Controlling infection in health care settings

Health care workers should always take standard precautions when caring for patients, regardless of their presumed diagnosis. These include basic hand hygiene, respiratory hygiene, use of personal protective equipment (to block splashes or other contact with infected materials), safe injection practices and safe burial practices.

Health care workers caring for patients with suspected or confirmed Ebola virus should apply extra infection control measures to prevent contact with the patient's blood and body fluids and contaminated surfaces or materials such as clothing and bedding. When in close contact (within 1 metre) of patients with EBV, health care workers should wear face protection (a face shield or a medical mask and goggles), a clean, non-sterile long-sleeved gown, and gloves (sterile gloves for some procedures).

Laboratory workers are also at risk. Samples taken from humans and animals for investigation of Ebola infection should be handled by trained staff and processed in suitably equipped laboratories.

## Sri Lanka: Preparedness and Response

In Sri Lanka, the situation is closely monitored. A regular dialogue occurs between the relevant stakeholders such as DGHS, DDG (PHS) 1, D/Quarantine, Chief Epidemiologist, MRI, IDH, Foreign Employment Bureau, airport authorities and foreign ministry.

International airport / sea ports health officials & immigration officials have been briefed about the EVD situation and emergency contingency plans are operating at airports/sea ports and there is an established 24 hour health desk with a medical officer at the Bandaranaike International Airport. Passengers travelling from Africa, especially from Western & Central Africa, are screened for symptoms & contact history of Ebola and requested to report to the nearest health facility if they fall ill within 3 weeks of travel to affected regions (self declaration form. leaflet). Sri Lanka has established a mechanism and a database to follow up the health status of the passengers coming from Ebola affected countries for next 3 weeks. Sri Lankans travelling to African countries and Sri Lankans living in the Ebola affected countries are being educated about the EVD using leaflets and through foreign missions, respectively. On arrival visa for visitors from Ebola affected countries has been suspended. Isolation facilities at the Negombo General Hospital and Infectious Disease Hospital have been strengthened. Facilities are available for immediate transfer of suspected cases to these hospitals (from airport). Detailed guidelines for clinical management of patients with EVD infection has been circulated to all health care institutions. Personnel protective equipment has been procured and supplied to points of entry and referral hospitals. Early virus diagnosis is made possible through the Medical Research Institute (MRI).

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## **Lung Cancer in Non Smokers**

#### Two cases and discussion on management options

Dr. N. Jeyakumaran Consultant Clinical Oncologist, National Cancer Institute, Maharagama.

Dr. O. J. C. Perera Registrar in Clinical Oncology, National Cancer Institute, Maharagama

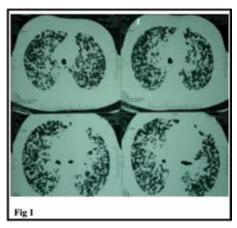
ancer incidence is rising worldwide as well as in Sri Lanka. Lung cancer is a leading cause of caner related deaths worldwide. According to the 2007 cancer registry of Sri Lanka, it is the second commonest cancer among males (Crude Rate 7.3 per 100000 population) and sixth commonest among males & Females (Crude Rate 4.5 per 100000 population).

Overall, 10-15% of lung cancers occur in non-smokers. Lung cancer in non-smokers is different than lung cancer in smokers on a genetic, cellular, and molecular level and they respond better to targeted therapy.

Among these lung cancers in non smokers about three-fourths occur in women, and a high proportion of cases show an adenocarcinoma histology including bronco-alveolar carcinoma. Adenocarcinoma occurring in neversmoker women appears to be more prevalent in Asian populations.

Genetically also they are different. Certain mutations occur mostly in non smoker lung cancers, for example, the EGFR mutation (Non smokers : Ever smokers - 66%: 22%), and the ALK translocation (associated with never smokers), while other mutations like TP53 and KRAS do occur more among smokers.

Two cases illustrating lung cancer among non smokers with different presentations and findings, responding well to targeted therapies are briefed below:

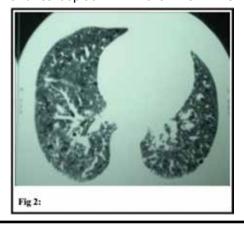


#### Case:1

Mr.K 45years old, never smoker, aryuvedic drug mixer from Jaffna transferred for further specialized care of recurrent stage 4 lung cancer from TH Jaffna. On transfer he was on Oxygen via mask. His Oxygen saturation (SpO2) was 86% on air and ECOG 4 in performance scale.

He had presented initially with cough for >1year with poor appetite and headache for about 1 year in late 2013. His CXR has shown B/L milliary shadowing and his HRCT has shown B/L dense soft tissue nodules (Fig 1). Broncoscopy and biopsy revealed a malignant tumour within the subepithelial tissue showing glandular structures and perineural invasion suggestive of an adenocarcinoma.

He was also found to have a small right temporal lobe brain metastasis and was treated with whole brain radiotherapy and 8 cycles of paclitaxel and carboplatin. In March 2014 his



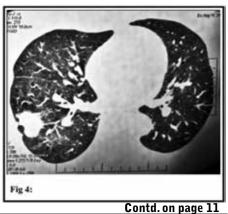


reassessment CXR showed reduced shadowing but CT chest showed B/L reticular, nodular and cystic changes(Fig 2).

Later his symptoms progressed for which he came to NCI, Maharagama. After excluding Tuberculosis and confirming initial histology of primary lung adenocarcinoma by Immunohistochemistry, he was treated empirical with erlotinib 150mg daily from 1st of September 2014. As EGFR mutation results are pending, the second line chemotherapy with docetaxel and cisplatin too was administered. His performance improved to ECOG 1 with an Oxygen saturation (SpO2) on air of >95%. Reassessment CT done on 20th of October 2014 showed remarkable response (Fig 3).

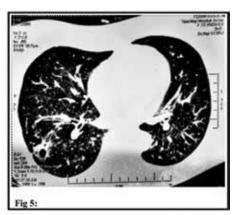
#### Case 2

Mrs.E, 70 years old, retired teacher, in performance scale ECOG-1 from Jaffna was investigated for recurrent lung infections and was found to have a right sided, peripherally located lung mass in CT Scan (Fig 4).



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#### Lung Cancer...



CT guided biopsy with immunohistochemistry revealed a primary adenocarcinoma of the lung and her PET scan revealed multiple vertebral metastasis. Further investigations revealed strongly positive EGFR mutation. She was started intially with external beam radiation treatment for the vertebral metastasis to prevent spinal cord compression and empirically on erlotinib 150mgs daily.

She was also given 2 cycles of chemotherapy till the genetic test result became available. Later chemotherapy was discontinued and only elotinib was continued. Now she is clinically well and her response assessment CT that was done after 1 year of treatment showed non active/healed pulmonary lesion (Fig 5) with healed bony metastasis.

#### **Management of Lung cancer**

Lung cancer management has evolved from non specific palliative therapies in early 1990s to the genetically targeted histology driven therapies of today.

Surgery remains the standard treatment in stage I and II non small cell lung cancer. In medically unfit patients, stereotactic body radiotherapy (SBRT) is an efficacious and more tolerable alternative treatment to surgery. Platinum based adjuvant chemotherapy has improved long-term survival in patients with stage II and IIIa non small cell lung cancer who have undergone surgery. Concurrent

chemoradiotherapy is the therapeutic standard in patients with locally advanced non small cell lung cancer. Concurrent chemoradiotherapy has shown significant benefit over sequential chemotherapy and radiotherapy but with higher toxicity. Recent meta-analysis showed an overall survival with adjuvant chemoradiation HR 0.88(95% CI 0.81-0.97).

In patients with metastatic non small cell lung cancer, platinum based chemotherapy has been shown to improve survival. Patients with nonsquamous lung cancer should be assessed for the presence of activating epidermal growth factor receptor (EGFR) mutations or anaplastic lymphoma kinase (ALK) rearrangements because specific inhibition of these oncogenic alterations has shown efficacy. Drugs acting on these driver mutations are Gefitinib, Erlotinib and Crizotinib. Vascular Endothelial Growth Factor (VEGF) antibodies like Bavacizumab has shown efficacy in lung cancer management, but it is contraindicated in squamous cell lung cancer as it causes pulmonary haemorrhage. In addition to the established molecular targets EGFR and EML4-ALK, new targets are being studied for introducing novel agents in future. In metastatic disease settings platinum based chemotherapy has shown to improve overall survival. Targeted therapies against EGFR mutation (eg: erlotinib, gefitinib) and ALK rearrangement (eg: Crizotinib) and VEGF antibodies (eg: Bavacizumab) have also shown to confer survival advantage in this stage.

Small cell lung cancer usually presents in extensive disease stage. Limited stage small cell lung cancer is managed by surgery and concurrent chemoradiation. Extensive disease is managed by combination chemotherapy

In conclusion, lung cancer is best

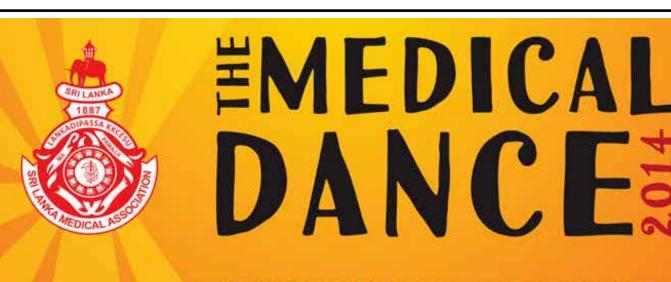
managed with multidisciplinary approach towards highly individualized manner incorporating newer treatment strategies.

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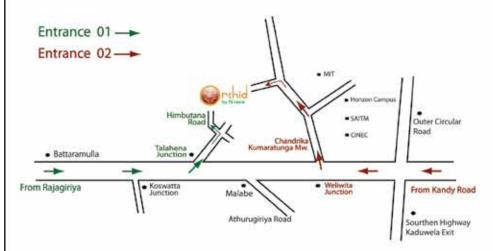
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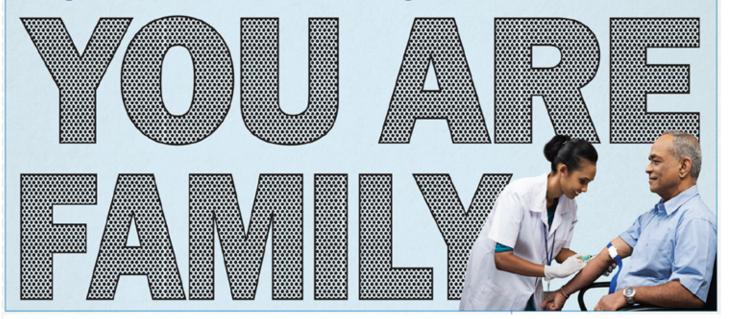
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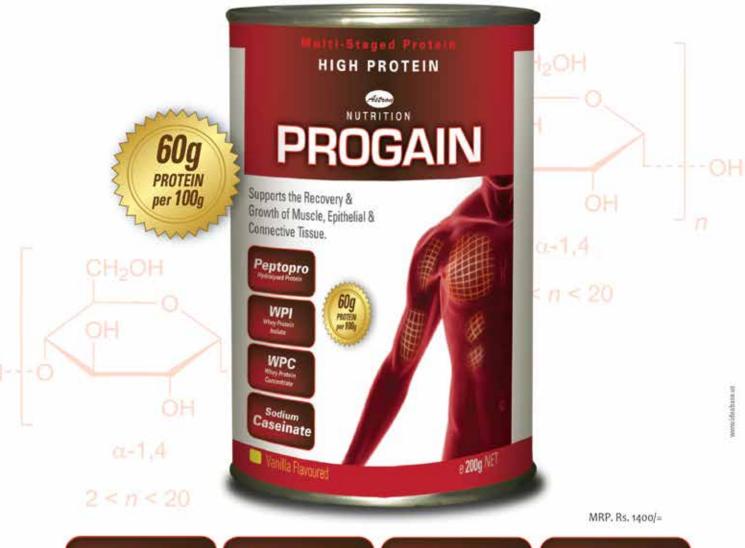


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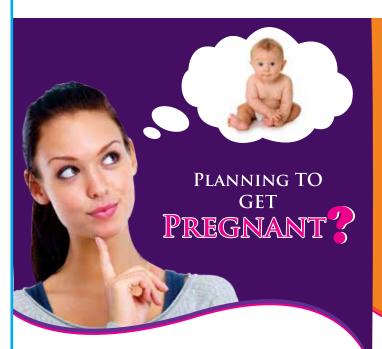


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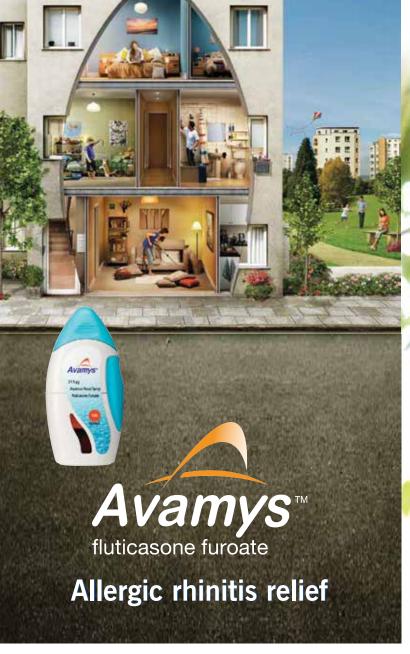
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