# University of Jaffna

## Dr. M. Ganesaratnam
## Memorial Lecture – 2024

### “After the Cut: Navigating Post-op Intra-abdominal Sepsis”

by

**Dr.S.M.M.Niyas**

MBBS (SL), MS (SL), FRCS (Edin.) FRCS (Eng.), FICLS (Hon.), FCPSP (Hon.), FSSN (Hon.)

President, College of Surgeons of Sri Lanka, Consultant General Surgeon and Visiting Lecturer Teaching Hospital Peradeniya

on

***Saturday, 30th November 2024***
***at 3.00pm***

at

**Hoover Auditorium**
**Faculty of Medicine, University of Jaffna.**

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# Message from the Vice-Chancellor

It is an honour and a testament to his legacy that the University of Jaffna has chosen to commemorate Dr M. Ganesaratnam through this memorial lecture. Dr. Ganesaratnam was a distinguished General Surgeon and a former President of the College of Surgeons of Sri Lanka. He made monumental contributions to the field of surgery in Sri Lanka, particularly in the Northern region, during some of the most trying times in our nation's history. His unwavering dedication as Consultant Surgeon at the Jaffna Teaching Hospital for over two decades exemplifies leadership, resilience, and compassion. Dr. Ganesaratnam's tireless efforts to perform life-saving surgeries, even under the direst circumstances, helped save countless lives, including those of war victims.

Furthermore, his invaluable contributions to the Faculty of Medicine at the University of Jaffna, particularly in conducting Professorial and Clinical Surgery, have left an indelible mark on medical education and practice. His selfless service, humanitarian ethos, and commitment to social well-being continue to inspire generations of medical professionals.

It brings me great joy to welcome Dr. S.M.M. Niyas, President of the College of Surgeons of Sri Lanka and Consultant General Surgeon at the National Hospital, Kandy, as this year's orator for the Dr. Ganesaratnam Memorial Lecture year 2024. Dr. Niyas is an exemplary figure in the field of surgery.

His illustrious academic and professional journey, which includes receiving the Fellowship of the Royal College of Surgeons of Edinburgh and England in 1997, highlights his dedication and expertise. Having served in diverse regions of Sri Lanka, Dr. Niyas is renowned for his steadfast commitment to the medical profession, education, and social service.

I am confident that Dr. Niyas's lecture, "After the Cut: Navigating Post-Op Intra-Abdominal Sepsis," will illuminate critical surgical challenges and inspire young minds to embrace the demanding yet rewarding path of the medical profession with courage, determination, and compassion.

Despite his many commitments, I would like to express my heartfelt gratitude to Dr. Niyas for accepting our invitation to deliver this prestigious lecture.
May Almighty God bless him abundantly with peace, prosperity, and good health as he continues to serve humanity.

**Prof. S. Srisatkunarajah**
B.Sc.(Hons) Jaffna, PGDE (Merit) OUSL
Ph.D (Heriot-Walt)
Professor in Mathematics
Vice-Chancellor
University of Jaffna

## Dr M Ganesaratnam Memorial Lecture 2024
## *After the Cut: Navigating Post-op Intra-abdominal Sepsis*
**Dr.S.M.M.Niyas**

Post-operative sepsis is one of the most dreaded complications of abdominal surgery. No surgeon has thus far managed to escape this dreaded peril. Therefore it is crucial that the modern surgeon master the intricacies of defining, working-up, and tackling this resilient adversary.

### Defining sepsis: A critical distinction

Not every patient with an infection is septic. A patient with an active infection will naturally demonstrate signs of systemic inflammation, such as fever, tachycardia, tachypnea, and leukocytosis - collectively known as the “Systemic Inflammatory Response Syndrome”. **Identifying patients with SIRS is important but differentiating them from the septic patients is even more so.**

Sepsis is defined as “**life-threatening organ dysfunction caused by a dysregulated host response to infection**”. The key-terms being “organ dysfunction” and “dysregulated”. It follows that **there is no sepsis without organ dysfunction** (e.g. ARDS, AKI, ALF, DIC, shock etc.) The word “dysregulated” implies that the septic patient demonstrates an abnormal, exaggerated response to infection leading to organ dysfunction.

The astute physician must **identify the septic patient early-on – enter the SOFA score.** Patients in SIRS should have their SOFA score calculated at baseline and regularly thereafter. **A rise in the SOFA score of ≥ 2 would define "life-threatening organ dysfunction"** and thus categorize the patient as septic.

**The Role of Biomarkers: diagnosis and monitoring**

Having studied in the era of Full Blood Counts and ESR, practiced in the times of CRP, and now witnessed the arrival of Procalcitonin, the role of biomarkers in diagnosing and monitoring sepsis is not lost on me. It is however **important to recognize the limitations of these markers, especially in the post-operative period** where separating from a normal post-operative response and sepsis can be challenging.

The CRP peaks between postoperative day 2-3, and declines to baseline by postoperative day 5. Procalcitonin (PCT) however peaks earlier on postoperative day 1 and declines to half it's peak from postoperative day 2-3. **Persistent elevations of CRP / PCT can indicate septic complications** in the postoperative period. The treating surgeon should be aware **that none of the circulating biomarkers (including PCT) discriminate better between sepsis and SIRS than CRP alone.**

**We will likely soon witness the entry of novel biomarkers into clinical practice.** These biomarkers will have higher discrimination power between normal postoperative inflammatory responses and sepsis. **Intraperitoneal cytokines may be another important future tool** used to determine and follow the patient's inflammatory reaction.

## The Role of Imaging: locating the focus

**The key questions of sepsis are "Is the sepsis?" and "Where is the sepsis?"**. Imaging plays a large role in the latter. We in Sri Lanka have become complacent in requesting for ultrasound as the baseline imaging option for all patients with abdominal insult. It is however imperative to note that the postoperative patient will have a very poor field of view due to wounds, drains, dressing, and ileus. This is on top of the already poor visualization of bowl which has plagues the ultrasound since it's inception.

**CT is the preferred imaging modality in the evaluation of postoperative abdominal sepsis and ultrasound should not replace CT as the initial imaging modality based on ease of use.**

## Early diagnosis: the difference between life and death

**Putting this all together, the path to early diagnosis clearly rests on 3 pillars.** The experienced surgeon would no doubt identify that each of these metrics should proceed in tandem, and interpreted in conjunction. No single image or test alone can determine patient care.

1. Serial clinical observations and calculation of SOFA score
2. Serial monitoring of biomarkers
3. Early imaging with CT

## Antibiotic Stewardship: preventing misuse

We are no doubt living in an era of heightened awareness to the misuse of antibiotics. The surgeon is not immune to the dangers of antibiotic resistance and must strive to be a part of the solution to this crisis. Rational use of antibiotics is the need of the hour.

The efficacy of antibiotic prophylaxis for reducing surgical site infections has been clearly established. Patients undergoing clean-contaminated procedures must receive prophylactic antibioitcs. The use of antimicrobial agents for dirty procedures or established infection is classified as treatment of presumed infection, not prophylaxis

## Management: surviving sepsis

As with all other septic patients, the surviving sepsis guidelines should be practiced in the initial resuscitation period. When the septic patient is identified, the initial administration of antibioitcs should not be delayed. Every hour of delayed initiation of antibiotics leads to an increase in mortality by 2%.

## When to reoperate: predictive tools and decision making

The Abdominal Reoperation Predictive Index (ARPI) is a validated scoring system that synthesizes common sense and objective measurements in an attempt to predict the need for reintervention before it is too late. Although ARPI is useful in decision making, it cannot by any means replace the expertise and critical judgment of the medical team involved. For this reason, beyond monitoring the postoperative period, its application is recommended for doubtful situations and as the central axis of an algorithm fostering a consistent approach at each center.

The patient with suspected intra-abdominal sepsis, with a negative CT abdomen poses a particularly difficult situation to the surgeon. The decision to re-open in this case is as complex as it is challenging. In this situation, the surgeon must make judicious use of other modalities such as Drain Fluid Analysis, Diagnostic Peritoneal Lavage, Diagnostic Laparoscopy, and Exploratory Laparotomy.

Dr.S.M.M.Niyas, MBBS (SL), MS (SL), FRCS (Edin.) FRCS (Eng.), FICLS (Hon.), FCPSP (Hon.), FSSN (Hon.) President of the College of Surgeons of Sri Lanka; Consultant General Surgeon and Visiting Lecturer, Teaching Hospital Peradeniya, Sri Lanka. He had his primary education at St. Thomas' College, Matale. In 1985 he graduated from Faculty of Medicine, University of Peradeniya.

Following this, he entered the Sri Lankan postgraduate training programme in surgery in 1993 and obtained Master of Surgery (MS) from the PGIM, University of Colombo in 1992 and choose to specialize in General Surgery. Also, he obtained the Fellowship of the Royal College of Surgeons of Edinburgh in 1997 (FRCSEd). Further, he obtained Board certified specialist in General Surgery by the Postgraduate Institute of Medicine, University of Colombo in 1996. Took up his first appointment as a Consultant General Surgeon in District General Hospital, Matale in 1999. Currently he has been working as a Consultant General Surgeon and Visiting Lecturer at Teaching Hospital Peradeniya, since 2023.

He has published several publications and international research. He was President of The Kandy Society of Medicine (2018 – 2020), President of Building Committee KSM. President of Central Chapter of CSSL (2008 – 2021), Vice President of the College of Surgeons of Sri Lanka (2021 - 2022). Vice President of Association of General Surgeons of Sri Lanka (AGSSL). Vice President, Peradeniya Medical School Alumni Association (PeMSAA). He is a Vice President of SAARC Surgical Society. And also he is the President of The College of Surgeons of Sri Lanka (2023 – 2024).

He is a member of the following bodies. Such as, Life member of Kandy Society of Medicine (KSM), Life Member of Association of General Surgeons of Sri Lanka (AGSSL), Life Member of the College of Surgeons of Sri Lanka (CSSL). Advisory Panel Member of Kandy Society of Medicine (KSM), Member of Extended Teaching staff and Faculty Board in the Faculty of Medicine, University of Peradeniya. Member of Board of Study in Surgery Post-Graduate Institute of Medicine (PGIM) (2017 – to date).

Dr.S.M.M.Niyas was an Examiner for MBBS, ERPM, Anatomy at Faculty of Medicine, University of Peradeniya. Examiner MD Surgery Part I and Part II at Post-Graduate Institute of Medicine (PGIM).

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