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SLAGM News

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Medicine

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Current Issue

SLAGM AGM

Vascular Disease in
the Older Adults
Review Article

Transfusion
Reactions

Delirium in the Older
Adult

Falling Through the
Cracks-Falls in the
Older Adult



Message from the
President.....



SLAGM AGM 2024

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CONTENTS

| | Page Number |
|--|-------------|
| 1.Message from the President | 3 |
| 2.Message from the Editor | 5 |
| 3.SLAGM Annual Meeting | 6 |
| 4.Flourishing Beyond | 10 |
| 5.SLAGM Trainees Forum | 12 |
| 6.CME- Nurses Training | 13 |
| 7.Review Article- Vasocluar Vascular Disease in the Elderly | 14 |
| 8.Geriatric Care Development News | 20 |
| 9.Transfusion Reactions | 24 |
| 10.Delirium in the Elderly | 31 |
| 11.Creative Corner | 35 |
| 12.Falling through the cracks | 38 |

Message from the President



I'm very honoured by the association's choice for the new President of the Sri Lankan Association of Geriatric Medicine (SLAGM). I hope to continue the work of previous Presidents and sub- Committees in working together with members to enable the association to fulfil its objectives and flourish in a challenging environment.

We witnessed the outgoing President and his council have done an outstanding job in their roles. Their tireless efforts and innovative approaches have significantly advanced the landscape of Geriatric Medicine in SL

The transition of the baton has been seamless, ensuring a smooth continuation of our efforts and objectives."

As we are all aware SLAGM is the apex professional organization of Geriatric Medicine in Sri Lanka. SLAGM brings all health professionals who are interested in Geriatric medicine together to a single platform facilitating the establishment of center of excellence for the continuous professional development.

I am greatly privileged to be a founder member when it was established in 2014 under the unwavering dedication, passion and foresight of Dr. Lalith Wijayaratne, the founder with few medical professionals of different disciplines. The foundation they laid, the values they instilled, and the legacy they created continue to inspire and guide us as we navigate the ever-evolving landscape of geriatric care.

I dedicated significant effort and commitment in my roles as both a council member since the second council up to now and a Vice President of the Geriatric Association.

As we embark on this journey together, I am thrilled to announce our theme for the upcoming term: "Pioneering Age-Friendly Care: The Geriatric Association's Leadership Journey." This theme embodies our collective commitment to transforming our existing team into a geriatric-friendly powerhouse, setting a new standard for age-friendly care within the healthcare sector.

Although we discuss the importance of a multidisciplinary team with many members, we often find ourselves working with only a few of them in practice."

Even with a smaller team, we can still achieve our goals if we effectively harness and apply their skills.

Together, we will embark on a path of innovation and collaboration, working tirelessly to enhance our understanding of geriatric care and communication skills with older adults. We will establish age-friendly policies and procedures, creating a welcoming and accommodating environment for seniors under our care.

Through partnerships with senior advocacy groups and experts in gerontology, we will stay at the forefront of best practices and cutting-edge approaches in geriatric care. We will organize regional meetings, training programs for health care professionals, knowledge enhancing programs for trainees, community outreach events, raising awareness about the importance of age-friendly practices and promoting healthy aging initiatives in our community.

As your President, I pledge to lead with integrity, compassion, and a relentless dedication to our mission of providing the highest quality care for older adults. Together, we will create a legacy of excellence and compassion that will be felt for generations to come.

I am excited for the journey ahead and look forward to collaborating with each and every one of you to make our vision a reality. Thank you for your trust, your support, and your unwavering commitment to the well-being of older adults. Together, we will pave the way for a brighter, more inclusive future in geriatric care. Thank you.

Dr.Lasantha Ganewatte

President,

Sri Lanka Association of Geriatric Medicine.

2024

From the Editor



Dear Colleagues,

I am delighted to welcome you to the second volume of the Sri Lanka Association of Geriatric Medicine (SLAGM) Newsletter. It is with great pleasure that we continue our mission to provide valuable insights, updates, and resources to our dedicated community of geriatric care professionals.

The field of geriatric medicine is more crucial than ever as our society continues to age. It is our privilege and responsibility to ensure that our senior citizens receive the best care, support, and attention they deserve. The SLAGM Newsletter is a vital platform for sharing knowledge, fostering collaboration, and staying informed about the latest developments in the field.

In this volume, we have endeavored to bring you a diverse range of articles, and information regarding the various activities of SLAGM conducted throughout the last two months. I extend my deepest gratitude to those who contributed articles for this issue for their invaluable commitment.

As we explore the contents of this second volume, let us renew our commitment to advancing the field of geriatric medicine. Let us use this platform not only to stay informed but also to connect with one another, share best practices, and learn from each other's experiences. Together, we can continue to raise the standard of care for our aging population.

I encourage you to actively engage with the newsletter, provide feedback, and share your own insights and experiences. Your participation is essential in shaping the future of geriatric medicine in Sri Lanka and beyond.

Thank you for your unwavering support, and here's to the continued growth and success of the Sri Lanka Association of Geriatric Medicine and the valuable work we do for our elderly population.

Warm regards,

Dr. Achala Balasuriya

Editor-in-Chief,

Sri Lanka Association of Geriatric Medicine.

The 11th Annual General Meeting of the Sri Lankan Association of Geriatric Medicine

The 11th Annual General Meeting of the Sri Lankan Association of Geriatric Medicine was held on the 15th of August 2024, at Jetwing Colombo 7.

The Annual General Meeting was preceded by the launching of 3 care pathways on Dementia, Pressure Ulcers and Backache.

The minutes of the 10th Annual General Meeting of the SLAGM was presented by Dr Barana Millawithana, president of SLAGM and it was proposed as true and correct by Dr Chamila Dalpadadu and was seconded by Dr. Lasantha Ganewatte subjected to proposed amendment that a summary of the previous year's secretaries' report to be included in the AGM minutes.

Next, the outgoing president welcomed the members to the 11th AGM, and thanked the outgoing council and the membership for their enormous support in successfully carrying out the activities of the SLAGM during the past year.

Next, Dr. Malsha Gunathilake, the joint secretary of the SLAGM presented the secretaries' report for the year 2023/2024, highlighting the various activities carried out by the different subcommittees of the SLAGM, under the theme "Enhancing the Landscape of Geriatric Medicine".

The treasurer's report was presented to the membership by Dr Indika Kulasinghe, the treasure of SLAGM, and it was proposed as true and correct by Dr. Lasantha Ganewatta and was seconded by Dr. Padma Gunarathne.

This was followed by the election of office bearers for the year 2024/2025.

Dr. Lasantha Ganewaththa was elected as the new president of the Sri Lankan Association of geriatric Medicine. She thanked the membership for supporting her appointment as the president and briefly stated her vision and action plan for the upcoming year. She explained that the theme for the year 2024/2025 will be 'Pioneering age-friendly care: The Geriatric Association's Leadership Journey' and highlighted that this theme embodies the association's commitment to transforming our existing team in to a geriatric-friendly powerhouse.

The following members were elected for the council for the year 3034/2025.

Dr. Lasantha Ganewaththa was elected as the new president of the Sri Lankan Association of geriatric Medicine. She thanked the membership for supporting her appointment as the president and briefly stated her vision and action plan for the upcoming year. She explained that the theme for the year 2024/2025 will be 'Pioneering age-friendly care: The Geriatric Association's Leadership Journey' and

highlighted that this theme embodies the association's commitment to transforming our existing team in to a geriatric-friendly powerhouse.

The following members were elected for the council for the year 2024/2025.

| | |
|-------------------------------|--------------------------|
| Dr Lasantha Ganewatte | President |
| Dr. Manilka Sumanatilleke | Vice President |
| Dr Kapila Ranasinghe | Vice President |
| Dr Chamila Dalpatadu | President Elect |
| Dr Madhushani Dias | Joint Secretary |
| Dr Prasad Thilakarathna | Joint Secretary |
| Dr Indika Kulasinghe | Treasurer |
| Dr. Keshab Muthupulle | Assistant Treasurer |
| Dr Achala Balasuriya | Editor |
| Dr. Barana Millawithana | Immediate Past President |
| Dr Hiranthini De Silva | Immediate Past Secretary |
| Dr Malsha Gunathilake | Immediate Past Secretary |
| Prof. Sarath Lekamwasam | Past President |
| Dr. Padma Gunarathne | Past President |
| Prof. Kamani Wanigasuriya | Council Member |
| Dr. Nipuni Imbulgoda | Council Member |
| Dr Yasas Abeywickrema | Council Member |
| Dr warsha de Zoysa | Council Member |
| Dr. Sithira Senevirathne | Council Member |
| Dr. Saumya Dharshani | Council Member |
| Dr. Srishankar Verlmaran | Council Member |
| Dr. Upeka Samarawickrama | Council Member |
| Dr. Balakrishnan Gaurishanker | Council Member |
| Dr. Nelum Samaruthilake | Council Member |
| Dr Chamara Jayatunga | Council Member |

| | |
|-----------------------------|----------------|
| Dr Dilusha Lamabadusuriya | Council member |
| Dr. Kishara Gooneratne | Council Member |
| Prof. Shyamale Samaranayaka | Council Member |
| Dr. Dumitha Govindapala | Council Member |
| Mrs. Chandrani Herath | Council Member |
| Dr. Hemal Senanayake | Council Member |
| Prof. Priyamali Jayasekara | Council Member |
| Dr. Iresh Perera | Council Member |
| Dr. Shehan Silva | Council Member |
| Mrs . Nimali Aluthwatta | Ex officio |
| Dr. Asha Wettasinghe | Ex officio |
| Mrs. Shalika Jayasinghe | Ex officio |



| Name | Post | Proposed by | Seconded by |
|-------------------------------|--------------------------|------------------------|--------------------------|
| Dr. Lalith Wijeratne | Founder | | |
| Dr Lasantha Ganewatte | President | Dr Barana Millawithana | Dr Chamila Dalpatadu |
| Dr. Manilka Sumanatilleke | Vice president | Dr. Malsha Gunathilake | Dr Barana Millawithana |
| Dr Kapila Ranasinghe | Vice president | Dr Barana Millawithana | Dr. Malsha Gunathilake |
| Dr Chamila Dalpatadu | President Elect | Dr Barana Millawithana | Dr. Malsha Gunathilake |
| Dr Prasad Thilakarathna | Joint secretary | Dr Barana Millawithana | Dr Lasantha Ganewatte |
| Dr Madhushani Dias | Joint secretary | Dr Barana Millawithana | Dr Lasantha Ganewatte |
| Dr Indika Kulasinghe | Treasurer | Dr Lasantha Ganewatte | Dr Barana Millawithana |
| Dr. Keshab Muthupulle | Assistant treasurer | Dr Barana Millawithana | Prof Kamani Wanigasuriya |
| Dr Achala Balasooriya | Editor | Dr. Malsha Gunathilake | Dr Barana Millawithana |
| Dr. Barana Millawithana | Immediate Past President | | |
| Dr Hiranthini De Silva | Ex - officials | | |
| Dr Malsha Gunathilake | Ex- officials | | |
| Prof. Sarath Lekamwasam | Past President | | |
| Dr. Padma Gunarathne | Past President | | |
| Prof. Kamani Wanigasuriya | Council Member | Dr Malsha Gunathilake | Dr Barana Millawithana |
| Dr. Nipuni Imbulgoda | Council member | Dr Chamila Dalpatadu | Dr Malsha Gunathilake |
| Dr Yasas Abeywickrema | Council member | Dr Barana Millawithana | Dr Lasantha Ganewatta |
| Dr warsha de Zoysa | Council member | Dr Barana Millawithana | Dr Lasantha Ganewatta |
| Dr. Sithira Senevirathne | Council member | Dr Barana Millawithana | Dr Lasantha Ganewatta |
| Dr. Saumya Dharshani | Council member | Dr Lasantha Ganewatta | Dr Malsha Gunathilake |
| Dr. Srishankar Verlmaran | Council member | Dr Lasantha Ganewatta | Dr Barana Millawithana |
| Dr. Upeka Samarawickrama | Council member | Dr Lasantha Ganewatta | Dr Malsha Gunathilake |
| Dr. Balakrishnan Gaurishanker | Council member | Dr Lasantha Ganewatta | Dr Barana Millawithana |
| Dr. Nelum Samaruthilake | Council member | Dr Barana Millawithana | Dr Malsha Gunathilake |
| Dr Chamara Jayatunga | Council member | Dr Malsha Gunathilake | Dr Lasantha Ganewatta |

“Flourish Beyond” – Health Promotion Program for Senior Citizens



DFCC Bank, in partnership with the Sri Lankan Association of Geriatric Medicine (SLAGM), successfully conducted the second health promotion programme for senior citizens on August 3, 2024, at the E L Senanayake Auditorium in Kandy. This initiative is designed to enhance the health and well-being of citizens by encouraging them to take a proactive approach to healthy aging. Open to individuals aged 50 and above, the program benefited from the expertise of resource persons provided by SLAGM.

The program covered several key areas essential for healthy aging:

1.Introduction to Healthy Ageing: Prevention and Control of Common Medical Conditions

Dr. Praveenee Piyusha Wickramarathne

Senior Registrar in Geriatric Medicine, Teaching Hospital Peradeniya

2.Diet, Nutrition, and General Health Measures

Dr. Kaviendi Narmada Wijekoon

Senior Registrar in Geriatric Medicine, Teaching Hospital Peradeniya

3.Prevention and Control of Age-Related Conditions

Dr. Balakrishnan Gowrishanker (MBBS MD)

Consultant Geriatrician (Acting), National Hospital Kandy

4.Therapeutic Activity Modification for Healthy Aging

Mr. H.K. Rumesh Priyadarshana

Physiotherapist, National Hospital Kandy

5.Managing Your Financial Future: Financial Planning Strategies for Senior Citizens

Dr. Duminda Silva

Vice President - Retail Sales & Bancassurance, DFCC Bank PLC

This program is a part of a continuous effort to support senior citizens in leading healthier, more financially secure lives as they age.



SLAGM Activities

Trainees Forum



CME



Trainees Forum

- The first trainee's forum was held on 27 August, 2024.
 - 'Rare but not forgotten: Aging spine beyond the aches, by Dr. S S Thevasakayam, Registrar in Geriatric Medicine
 - 'Exposing the quick killer: Understanding melliodosis; by Dr. B Vijithabalan, Registrar in Geriatric Medicine


Monthly CME

The monthly CME sessions were regularly held in person, featuring presentations by specialists and allied health professionals. A highlight of this year's CME activities was the continuation of the Trainees Forum, which included case-based discussions presented by Geriatric trainees. These sessions were conducted via Zoom, making them more accessible to a larger audience. An array of sessions covering various Geriatric topics was organized around this year's theme, "Enhancing the Landscape of Geriatric Medicine."

The Topics covered were as follows:

- 12 September 2024 – Approach to Rehabilitation of the Older Adult by Dr. Chamara B Jayatunga, Consultant in Rehabilitation Medicine. This forum highlighted the important of holistic approach in rehabilitating older people along with basic Rehabilitation concepts.

Workshop – Nurses Training




Workshop on “Healthy Aging & Geriatric Nursing”

Organized by
Sri Lanka Nurses Association (SLNA)
In Collaboration with
Sri Lankan Association of Geriatric Medicine (SLAGM)


SATURDAY, 07th SEPTEMBER 2024

**Neuro Trauma Auditorium, National Hospital of Sri Lanka,
Colombo**



- Duty Leave
- Refreshment
- Lunch
- Certificate

Limited Seats



Scan Me

For Registration Rs. 1500.00

| Outline of the Programme | | |
|--------------------------|---|---|
| Time | Topic | Resource Person |
| 1. 8.00am - 8.20am | Welcome address and Introduction to the program | Mr. W.A. Kierthi Wimalakuru Principal Post-Basic College of Nursing Colombo |
| 2. 8.20am - 8.30am | Introduction to Geriatric and Gerontological Nursing | Dr. Suresh Rathnayake Senior Lecturer Department of Nursing Faculty of Allied Health Sciences, University of Kelaniya |
| 3. 8.30am - 9.00 am | Comprehensive Geriatric Assessment: Case based Discussions on Falls Incontinence Delirium | Dr. Barana Millaithana Consultant Physician Rajawala Hospital, Weligama Dr. Palla Rathnayake MD in Geriatric Medicine Rajawala Hospital, Weligama Dr. Suresh Rathnayake MD in Geriatric Medicine Rajawala Hospital, Weligama Ms. Chandana Herath Senior Lecturer/Head, Department of Clinical Nursing, Faculty of Nursing, University of Colombo |
| 4. 9.00am - 10.15am | | |
| 10.15am - 10.30am | | Tea Break |
| 5. 10.30am - 11.00am | Risk assessment of an older adult | Mrs. Thilina Jagoda, PhD candidate in Nursing, Faculty of Medicine, University of Peradeniya |
| 6. 11.00am - 11.30am | Caring for a patient with Depression: Key considerations | Dr. Anuradha Madegoda SB in Old Age Psychiatry Lecturer Faculty of Medicine, University of Kelaniya |
| 7. 11.30am - 12.00pm | Caregiver Burden and Challenges in Geriatric Nursing | Mrs. Chandana Herath Senior Lecturer/Head, Department of Clinical Nursing, Faculty of Nursing, University of Colombo |
| 12.00pm - 1.00pm | | Lunch Break |
| 8. 1.00pm - 1.30pm | Approaches in caring for a patient with cognitive impairment | Dr. Anuradha Madegoda Consultant in Old Age Psychiatry Colombo North Teaching Hospital, Rajawala |
| 9. 1.30pm - 3.00pm | Nursing care management (case based) a. Difficult communication (patient with dementia and care) b. Nursing history taking for risk assessment c. Caregiver burden in a patient with physical disability | Prof. S.S.P. Wimalakuru Dr. Anuradha Madegoda Mrs. Thilina Jagoda Mrs. Chandana Herath Mr. W.A. Kierthi Wimalakuru |
| 10. 3.00pm - 4.00pm | Legal Aspects in Geriatric Nursing | Prof. S.S.P. Wimalakuru Dean, Faculty of Nursing University of Colombo |

Workshop on Healthy Ageing and Geriatric Nursing

The Sri Lankan Association of geriatric Medicine, collaborated with the Sri Lanka Nurses Association in successfully conducting a workshop on “Healthy Ageing and Geriatric Nursing” on 07th September 2024, at the Neurotrauma Auditorium, National Hospital of Sri Lanka. Experts from geriatric medicine, old age psychiatry as well as geriatric nursing contributed to this programme which was well attended by nurses and undergraduate nurses.



Review Article

Common Vascular Diseases in the Elderly: A Comprehensive Review

Weerasuriya A P¹

¹*Department of surgery, University of Kelaniya, Sri Lanka.*

Abstract

Vascular diseases are prevalent among the elderly, leading to significant morbidity and mortality. Effective management is critical to improving this population's outcomes and quality of life. This review provides an in-depth analysis of the management strategies for major vascular conditions in the elderly, including, atherosclerosis, peripheral artery disease (PAD), and stroke. It covers pharmacological treatments, lifestyle modifications, and surgical interventions, emphasizing a multidisciplinary approach tailored to the individual needs of older adults.

Introduction

As the global population ages, the incidence of vascular diseases in elderly individuals is rising. These conditions pose a major challenge due to their complexity and multiple comorbidities. The management of vascular diseases in the elderly requires a comprehensive, patient-centered approach that integrates various therapeutic modalities including numerous minimally invasive interventions to address both the disease and its broader impact on health and functionality.

1. Atherosclerosis

Pathophysiology and Risk factors

The term atheroma is derived from the Greek word `athere`, meaning “porridge-like gruel.” The process of atherosclerosis is evident in very early life as in a 10-year-old child yellow color fatty streak is the first lesion visible to the naked eye. It is known that the fatty streaks containing lipid-filled macrophages are the precursors of more clinically relevant late atherosclerotic plaques. With advancing age, the progressive development of atherosclerotic plaques occurs within the sub-intimal layer of the arterial tree.

Advanced lesions are characterized histologically by the presence of extracellular lipid and fibrous connective tissue. They are whitish in gross appearance and are elevated so that they protrude into the lumen.

These plaques can undergo different provoking clinical sequelae including, progressive deposition of plaques in the sub-intimal position of an artery leading to the gradual reduction of the lumen, rupture of the fibrous cap and extrusion of lipid- rich material into the bloodstream, or intra-plaque hemorrhage leading to increased risk of rupture.

Once plaques are disturbed due to rupture, extruding lipid-rich material into the bloodstream can lead to intense thrombosis and total occlusion of the lumen or distal embolization. These will culminate in acute limb ischemia in a peripheral artery or myocardial infarction depending on the location.

There are modifiable and non-modifiable risk factors for the process of atherosclerosis. Chronic smoking, hypercholesterolemia, hypertension, severe obesity, and type 2 diabetes mellitus are some modifiable risk factors whereas advanced age, male gender, and racial differences are amongst few non-modifiable risk factors.

Pharmacological Management

Statins: These are the cornerstone of treatment, helping to lower LDL cholesterol levels and stabilize plaques. High potency statins such as Atorvastatin or Rosuvastatin are prescribed in these high-risk cohort of patients.

Antiplatelet Agents: Aspirin or clopidogrel may be prescribed to reduce the risk of thrombosis.

Sometimes dual antiplatelets are prescribed on selected high-risk conditions like those patients after peripheral artery angioplasty or percutaneous coronary stenting procedures. Lifestyle Modifications

Diet: Emphasizing a diet low in saturated fats and cholesterol can help manage lipid levels.

Exercise: Regular physical activity is recommended to improve lipid profiles and cardiovascular health.

Smoking Cessation: Smoking is a significant risk factor for atherosclerosis and should be actively addressed.

Surgical Interventions

Angioplasty and Stenting: For patients with significant coronary artery disease, percutaneous coronary interventions may be necessary.

Coronary Artery Bypass Grafting (CABG): In cases of severe or complex disease, CABG may be indicated.

2. Peripheral Artery Disease (PAD) Pathophysiology and Impact

Commonest cause for PAD is the process of atherosclerosis in the peripheral arteries, primarily affecting the legs. Other known causes include thrombangitis obliterans (Burgers disease), some diseases with vasculitis-rheumatoid arthritis and SLE, and popliteal entrapment syndrome, aortic coarctation, Fibromuscular dysplasia, Takayasu's disease, Pseudoxanthoma elasticum, and radiation injury.

There are two distinct clinical spectrums identified; stable disease- intermittent claudication, and severe disease- critical limb ischemia.

Management of intermittent claudication is mainly on best medical therapy pathway in terms of optimizing blood pressure and glycemic control, advising on regular exercise therapy, foot care and footwear, and pharmacological manipulations such as the usage of antiplatelet and statins.

Pharmacological Management

- Antiplatelet Agents: Aspirin or clopidogrel is often used to prevent cardiovascular events.
- Cilostazol: This medication can improve walking distance and symptoms of claudication.
- Lipid-Lowering Therapy: Statins are prescribed to manage dyslipidemia and reduce cardiovascular risk.

Lifestyle Modifications

- Supervised Exercise Therapy: Structured walking programs have been shown to improve symptoms and walking ability.
- Smoking Cessation: Essential for managing PAD and reducing cardiovascular risk. Surgical Interventions are reserved for some patients with disabling limb claudication
- Angioplasty and Stenting: These procedures can improve blood flow in the affected arteries.
- Bypass Surgery: In severe cases, surgical bypass may be required to restore adequate blood flow.

Patients with CLI need urgent revascularization measures in terms of angioplasty with or without stenting, or surgical bypass. Some patients with severe comorbidities and poor surgical candidates are best managed leg amputations or conservatively.

3.Stroke and carotid arterial disease

Stroke occurs due to a disruption of blood flow to the brain, leading to neuronal injury. It can be ischemic or hemorrhagic, with ischemic strokes being more common in the elderly.

Stroke is a permanent neurological deficit and one of the preventable causes for this is timely treatment of carotid arterial disease (CAD).

CAD is a common vascular condition that can lead to ischemic stroke. It results from the buildup of atherosclerotic plaques in the carotid arteries, reducing blood flow to the brain. With its potential for severe outcomes, timely and effective management of CAD is paramount.

Diagnostic Approaches

Clinical Evaluation: The assessment of CAD typically begins with a thorough clinical evaluation. Patients often present with risk factors such as hypertension, hyperlipidemia, diabetes, and a history of smoking. Symptoms can range from asymptomatic to transient ischemic attacks (TIAs) and strokes.

Imaging Techniques:

1)Carotid Ultrasound: This is the primary imaging modality used to assess carotid artery stenosis. It is non-invasive, cost-effective, and provides detailed information about plaque characteristics and the degree of stenosis.

2)CT Angiography (CTA): CTA offers a rapid, high-resolution assessment of the carotid arteries and is useful in identifying stenosis and plaque burden.

3)Magnetic Resonance Angiography (MRA): MRA provides high-resolution images without radiation and is beneficial for evaluating carotid artery anatomy and the presence of associated aneurysms or dissections.

4)Invasive Angiography: Reserved for cases where non-invasive imaging is inconclusive, this method provides a detailed view of the arterial system but involves higher risks and costs.

Medical Management Pharmacologic Therapy:

Antiplatelet Agents: Aspirin and clopidogrel are commonly used to reduce the risk of thromboembolic events. The choice between these agents often depends on patient-specific factors and comorbid conditions.

Statins: Statins are prescribed to manage hyperlipidemia and stabilize atherosclerotic plaques. They have been shown to reduce the risk of stroke and cardiovascular events.

Antihypertensive Medications: Control of blood pressure is crucial in managing CAD. Medications such as ACE inhibitors, beta- blockers, and diuretics are utilized based on individual patient needs.

Lifestyle Modifications: Alongside pharmacotherapy, patients are advised on lifestyle changes including dietary adjustments, smoking cessation, and regular exercise to manage risk factors.

Risk Factor Modification: Managing underlying conditions such as diabetes and hyperlipidemia through lifestyle changes and medications is essential in reducing the progression of CAD.

Surgical Interventions

1.Carotid Endarterectomy (CEA): **Indications:** CEA is recommended for symptomatic patients with $\geq 50\%$ stenosis or asymptomatic patients with $\geq 70\%$ stenosis. It involves the surgical removal of atherosclerotic plaque from the carotid artery to restore normal blood flow.

Outcomes: The procedure has demonstrated significant benefits in reducing the risk of stroke, particularly in symptomatic patients. Long-term outcomes are generally favorable, though the risk of perioperative complications exists.

2.Carotid Artery Stenting (CAS): Indications: CAS is an alternative to CEA, particularly for patients who are high-risk surgical candidates. It involves the placement of a stent to keep the artery open and is less invasive than traditional surgery.

Outcomes: While CAS has shown similar effectiveness to CEA in certain patient populations, it is associated with a higher risk of periprocedural complications. Long-term data continue to refine its role in CAD management.

Emerging Therapies and Future Directions Research into novel therapeutic strategies is ongoing. Advances include:

- Drug-Eluting Stents: These may reduce restenosis rates compared to traditional stents.
- Improved Imaging Techniques: Enhanced imaging modalities and AI-driven analysis may offer better risk stratification and treatment planning.
- Genetic and Molecular Therapies: Understanding the genetic basis of CAD may lead to personalized treatments targeting the underlying pathophysiology.

The management of carotid arterial disease involves a multifaceted approach, including rigorous diagnostic evaluation, pharmacologic and lifestyle interventions, and surgical options. The choice of treatment should be tailored to the individual patient, considering the degree of stenosis, symptoms, and overall health status.

Continued advancements in imaging and therapeutic strategies hold promise for improved outcomes in patients with CAD.

Conclusion

The management of vascular diseases in the elderly requires a multifaceted approach that incorporates pharmacological treatment, lifestyle modifications, and, when necessary, surgical interventions. Given the complexity and comorbidities often present in this population, individualized care plans and regular monitoring are essential to optimize outcomes and enhance quality of life. Continued research and innovation in treatment strategies will be vital to addressing the evolving needs of the aging population.

References

- 1.Rodgers J L, Jones J, Bolleddu S I. Cardiovascular risks associated with gender and aging. J Cardiovasc Dev Dis. 2019;6(02):E19.
- 2.Golomb, BA, Dang, TT, Criqui, MH. Peripheral arterial disease: morbidity and mortality implications. Circulation. 2006;114:688–699. doi: 10.1161/CIRCULATIONAHA.105.593442

3.Berger, JS, Ladapo, JA. Underuse of prevention and lifestyle counseling in patients with peripheral artery disease. J Am Coll Cardiol. 2017;69:2293–2300. doi:

10.1016/j.jacc.2017.02.064

4.Gerhard-Herman, MD, Gornik, HL, Barrett, C, Barshes, NR, Corriere, MA, Drachman, DE, Fleisher, LA, Fowkes, FG, Hamburg, NM, Kinlay, S, et al. 2016 AHA/ACC guideline on the management of patients with lower extremity peripheral artery disease: executive summary: a report of the American College of Cardiology/American Heart Association task force on clinical practice guidelines. Circulation. 2017;135:e686–e725. doi:

10.1161/CIR.0000000000000470

5.Carotid artery stenosis - current evidence and treatment recommendations. Müller MD, Bonati LH. Clin Transl Neurol. 2021;5

6.The North American Symptomatic Carotid Endarterectomy Trial : surgical results in 1415 patients. Ferguson GG, Eliasziw M, Barr HW, et al. <https://doi.org/10.1161/01.str.30.9.1751>. Stroke. 1999;30:1751–1758.

Geriatric Care Development News

“Caring for our elders” Establishing comprehensive geriatric services in Anuradhapura district.

Hemal Senanayake, Consultant Physician, Teaching Hospital Anuradhapura/ Senior Lecturer in Medicine, Faculty of Medicine and Allied Sciences, Rajarata University of Sri Lanka

A new era for senior wellness commenced in Anuradhapura district of north central province with the dawn of the year 2024. Department of medicine of Rajarata University took a significant step forward by establishing comprehensive geriatric services in Anuradhapura district. This initiative addresses the growing healthcare need of the aging population in the region, providing specialized care for unique medical, psychological and social challenges faced by the elderly and establishment of training facilities for future health care professionals in the field of geriatric medicine. This effort highlights the department’s commitment to enhance geriatric health care services for the vulnerable populations in are source poor setting in the Anuradhapura district. Under this program following geriatric services were established in different settings of the health care system in Anuradhapura.

Tertiary care level geriatric health services

At teaching hospital Anuradhapura following services and facilities have been commenced since January 2024.

1. Acute geriatric unit with in the professorial medical unit with 16 acute geriatric beds
2. Weekly geriatric multidisciplinary team meeting at professorial medicine unit
3. Femoral fracture pathway with orthogeriatric liaison – all elderly femur fracture patients are given shared care by ortho- geriatric team for optimization aiming early surgery and mobilization within 72 hours from admission
4. Acute stroke thrombolysis- 24/7 service integrated with geriatric services.
5. Geriatric specialty clinics, two days per week for stroke, dementia and falls and bone health.
6. Cognitive stimulation therapy (CST) services will soon be established to support the elderly with dementia.



Figure 1: Acute geriatric unit of teaching hospital, Anuradhapura

Intermediate level geriatric health services

The first intermediate level geriatric clinic was started on 05th of September 2024 at divisional hospital Thalawa. This clinic will be conducted weekly on Thursdays at a dedicated space. Further to this an



Figure 2: Geriatric Clinic at Thalawa hospital

intermediate level geriatric ward with 13 beds started in the Thalawa divisional hospital on 12th of September aiming to facilitate inpatient intermediate care. This clinic and ward are manned with trained health professionals including doctors, nurses, physiotherapists and supporting personnel. These services will hopefully minimize the congestion for tertiary beds at teaching hospital Anuradhapura and improve the quality of care given for the elderly patients.



Figure3: Intermediate care unit at Thalawa hospital

Primary care level geriatric health services

The first outreach geriatric clinic conducted by geriatric unit of the department of medicine, FMAS, RUSL was commenced on 18th of January 2024 at Puliyankulama preliminary care unit (PMCU). This clinic is conducted fortnightly.

Community level geriatric services and provision of health care services for elderly care homes



Figure 4: Outreach geriatric clinic at Puliyankulama PMCU

Trained Community nurses have been integrated to the Thalawa intermediate level geriatric clinic. These nurses will be doing field visits and identify vulnerable adults in designated geographical areas and refer them to the geriatric clinic for assessment and follow up. These nurses will do the long-term follow up of such patients in the community and will engage in mass education.

“Shanthi Sewana “the largest government owned elderly care home in Sri Lanka with 280 inmates is located next to the Puliyankulama PMCU. All the inmates in this elderly care home are registered ingeriatic outreach clinic at PMCU and being cared for their health needs.

In order to establish the above services, geriatric unit of the department of Medicine FMAS, RUSL closely liaised with the administration of teaching hospital, Anuradhapura, Social services department of north central province, regional directors’ office (RDHS) of Anuradhapura and the ministry of health and indigenous medicine of Sri Lanka.

It has already been planned to expand the geriatric services to cover the whole Anuradhapura district by establishing clinics and intermediate care units at selected divisional hospitals linked with the geriatric services of the teaching hospital Anuradhapura.

Geriatric Clinic Gampaha- Wathupitiwala

Establishment of a Geriatric Medicine Clinic at Base Hospital, Wathupitiwala

The Gampaha district has approximately 11.4% of its population aged 60 and older, making it the district with the second-largest aging population in Sri Lanka. There has long been a need to establish a Geriatric Medicine unit in this region to enhance training and service delivery.

Under the leadership of Consultant Physician Dr. Barana Millawithana, a Geriatric Clinic was inaugurated on August 20, 2020, at the VPOPD clinic in Base Hospital Wathupitiwala, marking it as the first clinic of its kind in secondary care within the Gampaha district. This initiative received full support from the Ministry of Health's administrators, as well as the provincial and regional directors of health services and the hospital.

The interdisciplinary clinic began by the VPOPD clinic team with the appointment of two medical officers holding diplomas in Geriatric Medicine, along with two nursing officers who completed the first-ever certificate course in Geriatric Nursing, along with other allied health professionals from the hospital.

The clinic's primary focus is on conducting Comprehensive Geriatric Assessments and implementing multidisciplinary care for selected older adults.

A ceremonial inauguration of the clinic is scheduled for October 2, 2024, in conjunction with International Elders’ Day celebrations.



Transfusion Reactions

Dr.Trilicia Withanawasam .MBBS, Diploma & MD (Transfusion Medicine)Senior Lecturer in Pathology, Consultant Transfusion Physician Department of Para Clinical Sciences, Faculty of Medicine, General Sir John Kotelawala Defence University, Kandawala Rd, Ratmalana.

Understanding Transfusion Reactions: A Quick Guide

Transfusion reactions are defined as adverse events following a blood transfusion, with the severity ranging from minor to life-threatening. They can be categorized based on their onset: acute reactions, occurring within 24 hours, and delayed reactions, occurring after 24 hours. In a clinical setting, any new symptom or change in vital signs occurring within 24 h of a blood transfusion should be considered a transfusion reaction until proven otherwise. Understanding these categories can help healthcare professionals manage and prevent complications effectively.

The symptomatic patient should be evaluated immediately. Initial management for all types of transfusion reactions includes stopping the transfusion, keeping the intravenous line open, providing supportive and symptomatic therapy and checking the patient identification and the blood product labeling.

Acute Reactions (< 24 hours)

Acute transfusion reactions occur shortly after a blood transfusion and can present with a variety of symptoms. Recognizing these symptoms early is crucial for effective intervention and ensuring patient safety. Acute reactions could be immunological or non-immunological.

Acute Hemolytic Transfusion Reactions (AHTR)

Immune-mediated acute hemolytic transfusion reactions (AHTR) are most often related to ABO incompatibility but can also be caused by other antibodies. Pathophysiological AHTR involves intravascular, with complement activation.

Mechanical hemolysis is possible due to poor handling of blood.

Management of AHTR – It is a medical emergency

Stop the transfusion and manage ABCD ; do close monitoring of vitals. Identify the blood group discrepancy management should be according to the symptoms and signs. Start normal saline infusion if low volume pulse & insert another canula before patient deteriorates, monitor urine output; if low provide frusemide 20-40 mg through IV.If the patient experience hypotension, provide inotropes ,inform blood bank Check if any other patient receiving transfusion/call for assistance. Early attendance can minimize morbidity/mortality .Perform baseline investigation and repeat. Prevention- ABO incompatible transfusion is 100% preventable by avoiding clerical and sampling errors, following correct test protocols and ensuing good bed side transfusion practices.

Febrile Non-Hemolytic Transfusion Reaction (FNHTR)

Febrile Non-Hemolytic Transfusion Reaction (FNHTR) is characterized by fever ($+>1^{\circ}\text{C}$ or $>38^{\circ}$) without hemolysis, which may be accompanied by chills, tachypnoea, anxiety, headache, transient hypertension

and discomfort within 4 h of transfusion, the symptoms are attributable to the release of endogenous pyrogens from white blood cells (WBCs) (either from the patient or the recipient), following a reaction between the recipient's antibodies and the donor's antigens, common in frequent/regular transfusion recipients.

Management and Prevention:

- Administration of anti pyretics (Pre-medication is not recommended)
- Slow transfusion
- Leuco reduction by the removal of buffy coat (SL practice)
- Leucodepletion – pre storage filtration and removal of WBC

Allergic Transfusion Reaction

Anaphylactic Transfusion Reaction (ATR) and Minor Allergic Transfusion Reaction are commonly IgE mediated and are due to plasma proteins. The symptoms range from mild, moderate to severe. The severity of these reactions varies from simple skin and mucous membrane damage to upper and lower airway and cardiovascular system involvement. Mild and moderate conditions can be managed by using anti histamine, hydrocortisone. Severe symptoms can be managed by;

- 0.5 ml of IM adrenaline (1:1000 dilution) and repeat if necessary, normal saline infusions, anti-histamines, hydrocortisone
- Serum tryptase level, IgA level and anti IgA antibodies
- Investigation for haptoglobin deficiency
- Documentation & future transfusion plan

Transfusion Associated Circulatory Overload (TACO)

TACO is defined as an acute or worsening respiratory compromise and/or acute or worsening pulmonary oedema during or up to 24 hrs of transfusion, with additional features including cardiovascular system changes not explained by the patient's underlying medical condition. Evidence of fluid overload and a relevant biomarkers can be used to support the diagnosis.

The diagnosis of TACO involves observation of symptoms such as,acute respiratory distress, tachycardia, Increased blood pressure, acute or worsening pulmonary oedema, and evidence of positive fluid balance.

If any four of the following are present within 6 hours of transfusion it indicates TACO.

The risk factors include:

Patients above 70 years old although TACO is seen in younger patients, neonates ,pregnancy concomitant medical conditions (e.g.-cardiac failure, renal impairment, fluid overload, hypoalbuminaemia),low body weight, and too rapid transfusion.

Management and Prevention:

Ideally all patients (particularly those >50 years) should have a TACO risk assessment before transfusion.

Mitigating measures include: Prescribing by volume (ml) rather than in units [this is essential in neonatal/paediatric patients], Use of diuretics, transfusing slowly with closer monitoring and divided doses for blood components

Transfusion Related Acute Lung Injury (TRALI)

Transfusion Related Acute Lung Injury (TRALI) is an acute non-cardiogenic pulmonary oedema associated with hypoxemia. In majority of cases the donor is having antibodies to HLA and /HNA antigens, especially the donors who had transfusions and multiple pregnancies. Commonly under diagnosed, one reason for this underestimation is a lack of understanding among clinicians, especially due to the difficulty of distinguishing TRALI from other entities. Acute respiratory distress syndrome is the primary differential diagnosis (ARDS). Pathophysiologically, TRALI is most often considered as an immune-mediated reaction.

The clinical diagnosis of TRALI involves, acute onset within 6 hrs after a blood transfusion

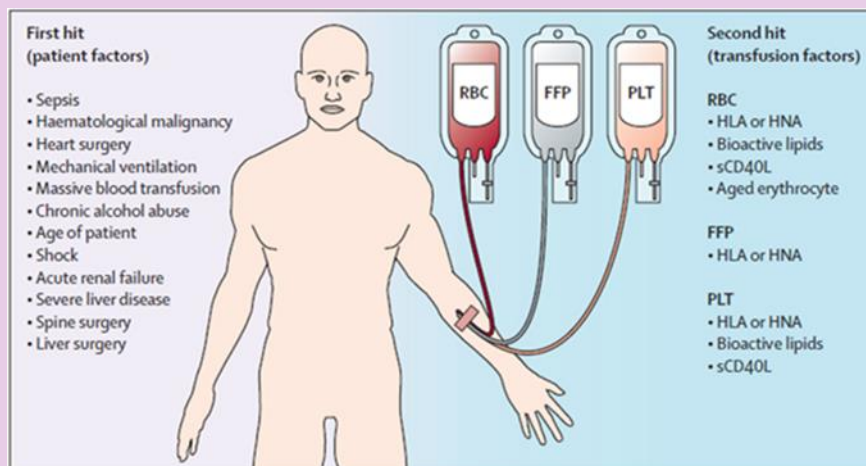
- $\text{PaO}_2/\text{FiO}_2 < 300 \text{ mmHg}$
- Bilateral infiltrative changes on the chest X-ray
- No sign of hydrostatic pulmonary oedema ($\text{PAOP} < 18 \text{ mmHg}$ or $\text{CVP} < 15 \text{ mmHg}$)
- No other risk factor for ALI present

•Possible TRALI

- Other risk factor for ALI present

•Delayed TRALI

- Onset of TRALI between 6 and 72 h after a blood transfusion



Management and prevention:

- Transfusion of plasma products to critically ill patients should be decided with careful analysis of benefit.

- Donor screening for leucocyte antibodies (transfused males and females with pregnancies &

transfusions).

- Provide oxygen as the main support, Intubate if severe hypoxia is observed.
- IV fluids can be given if the patient is hypotensive
- Prescribe steroids but it is not evidence based. Usually recover within 48-72 hours

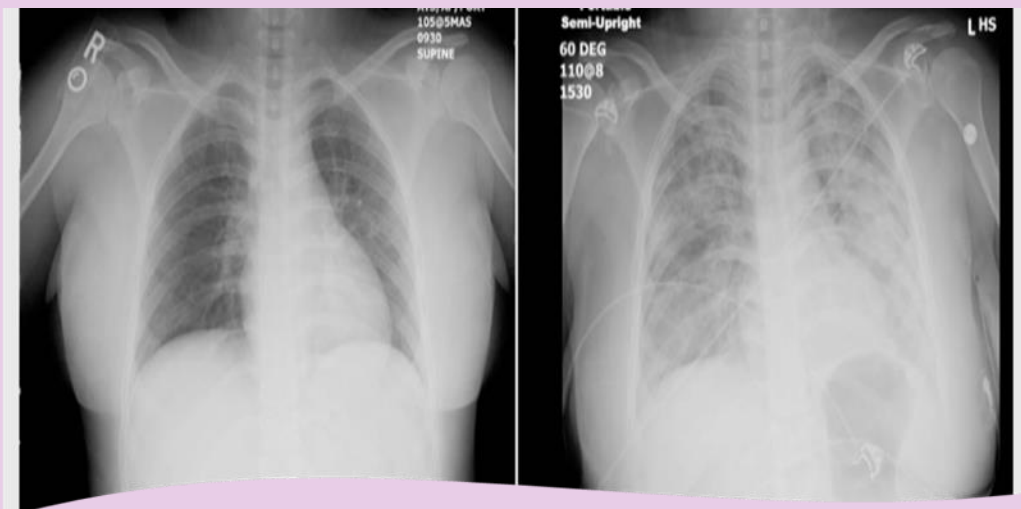


Figure 2 Pre-transfusion (a), post-transfusion (b)

Transfusion associated Bacterial Sepsis (TaBS)

Bacterial sepsis associated to transfusion mainly occurs due to contamination of the blood product, more common in blood products stored at room temperature such as platelets. Diagnosis is done after exclusion of other sources and proof of culture identified organism in the implicated pack. Commonly skin flora, transient bacteremia of donor or contamination during handling and storage could be the contributing factors. The clinical presentation includes, fever - >1.5 C from baseline, chills & rigors, nausea/vomiting/diarrhea, tachycardia, hypotension, hemolysis, shock and Multi Organ Failure (MOF).

Management involves: Supportive care, Broad spectrum antibiotics at start, Change to definitive antibiotic after sensitivity, all components of the donor must be recalled by the Blood bank.

Prevention:

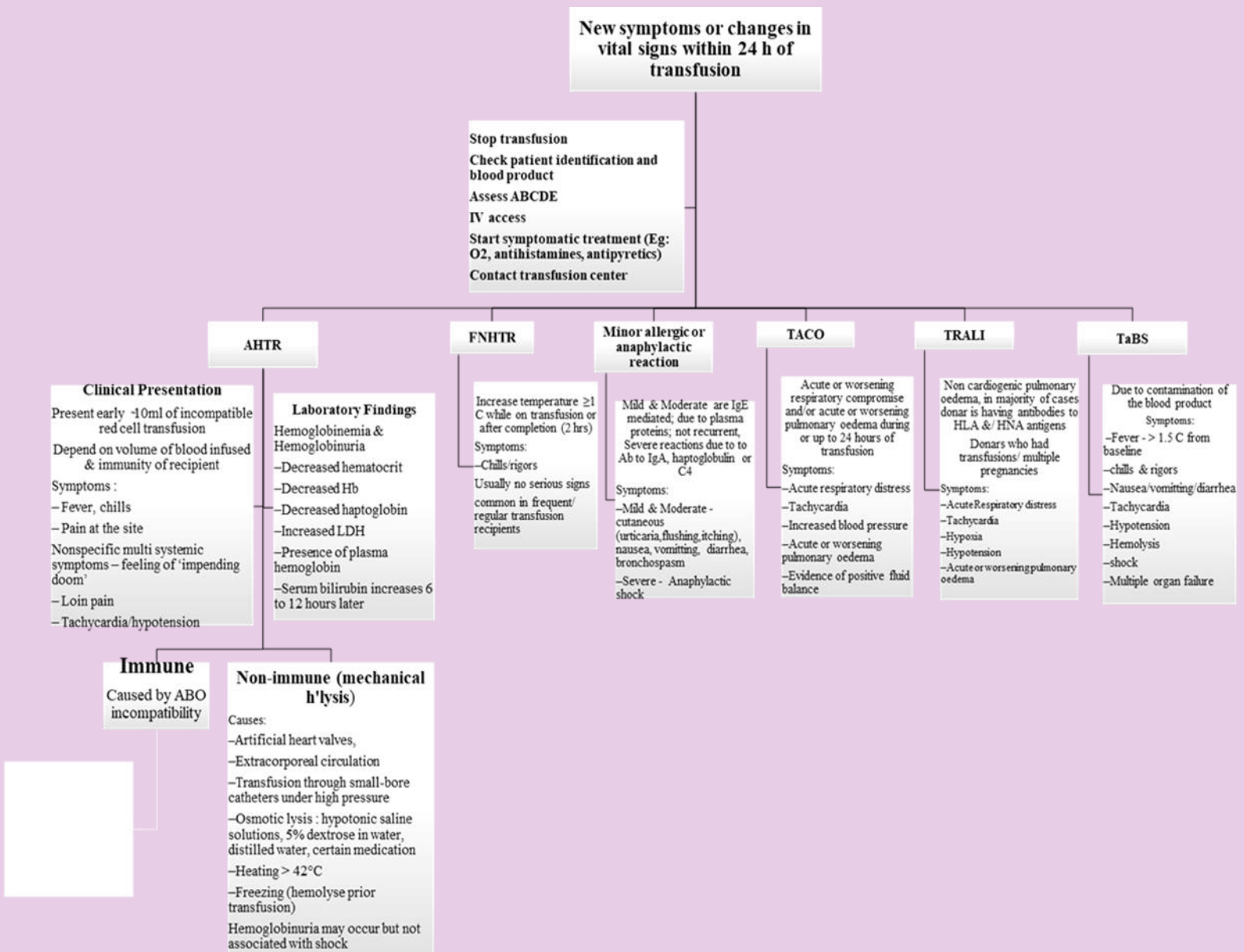
- Prevented by adhering to standard protocols in donor selection, blood collection & storage.
- Avoid keeping blood components out of the required temperatures.
- Start transfusion as early as possible in all components.
- RCC – maximum 4 hrs; other components – $\frac{1}{2}$ -1 hr (considering the patient's tolerance).

Acute transfusion reaction with unknown pathology

Transfusion Associated Dyspnoea (TAD) – Within 24 hours of receiving a transfusion, respiratory distress known as transfusion-associated dyspnea (TAD) can occur. This type of respiratory distress does not fit the

description of other transfusion reactions, such as transfusion-related acute lung injury (TRALI), transfusion-associated circulatory overload (TACO), or an allergic reaction.

- Acute pain Transfusion reaction – Severe pain over the trunk and proximity immediately after transfusion, the cause is unknown and poorly understood.



Delayed Reactions (> 24 hours)

Delayed transfusion reactions can be similar to acute HTRs, but delayed transfusion reactions are more gradual and are present 24 hrs to 30 days after transfusion. The most common initial symptoms include

fever, jaundice, and anemia-related symptoms. While delayed HRTs rarely result in death, they can increase morbidity and prolong hospital stays.

Delayed Hemolytic Transfusion Reaction (DHTR)

Delayed Hemolytic Transfusion Reactions occur due to secondary immune response following exposure to red cell antigens, the primary sensitization could occur during a transfusion, pregnancy or transplantation. Destruction of the RBCs takes place through extravascular hemolysis. It is less severe than acute HTRs and there is no complement activation. Clinical signs include fever, malaise, fatigue, symptoms of anemia, failure to increase Hb.

Management and prevention: Pre transfusion antibody screening. If antibody identified, explain to patient & give an antibody card. Cross match antigen negative RCC for future transfusions.

Transfusion Associated Graft vs Host Disease (TAGVHD)

Usually caused by engraftment of immunocompetent lymphocytes in an immunocompromised recipient, this condition is highly fatal. Sometimes it occurs when transfusing cellular components among 1st degree relatives who share HLA haplotypes. Clinical presentation is after 1-2 weeks of transfusion. Symptoms include fever, diarrhoea, skin rashes- erythematous, poor liver function and pancytopenia leading to infections.

Management and prevention: No effective treatment. Prescribe steroids or cyclosporin but there is no evidence for this. Prevention is recommended by identifying all risk categories. Cellular component irradiation by X ray and inactivate the viable lymphocytes in components. At risk patients should be given a card after explaining,

Post Transfusion Purpura (PTP)

This condition occurs due to destruction of platelets due to preformed anti-platelet antibodies, causing severe thrombocytopenia, widespread purpura and bleeding manifestations.

Management and prevention:

Prescribe steroids, Immunoglobulins and plasma exchange in severe cases. Once occur indicate the special components for future transfusions.

Iron overloading

One unit of RCC contains 200-250mg of Fe, occurs in regular transfusion recipients. This is managed by monitoring and chelation. Regular transfusion recipients should be monitored and iron chelation should be arranged.

Transfusion- Transmitted infection (TTI)

Transfusion-Transmitted Infection (TTI) may be bacterial, viral, or other such as prions, or parasite infections. Re-emerging infections may not be detectable at testing. Donor recruitment according to national guidelines, strict counselling, and performing mandatory testing help in prevention of Transfusion-Transmitted infection.

Haemovigilance (HV) System & Reporting transfusion reactions

Haemovigilance (HV) System collects information on all adverse events related to transfusion and “near miss” events. All information received by the HV system is handled with strict confidentiality. Hemovigilance system’s data/ information is published with the recommendations annually by the National blood transfusion service. All adverse events irrespective of severity should be informed to the blood bank. Send EDTA and clotted sample with the remaining blood unit with completely filled transfusion reaction form. Blood bank should investigate all events and diagnosis and future transfusion plan should be given to the ward and recipient. All reactions should be reported to the HV weekly.

References:

- 1.Ackfeld T, Schmutz T, Guechi Y, Le Terrier C. Blood transfusion reactions—a comprehensive review of the literature including a swiss perspective. Journal of Clinical Medicine. 2022 May 19;11(10):2859.
- 2.Soutar R, McSporran W, Tomlinson T, Booth C, Grey S. Guideline on the investigation and management of acute transfusion reactions. Br J Haematol. 2023 Jun 1;201(5):832-44.
- 3.Pessoni LL, Ferreira MA, Silva JC, Alcântara KC. Red blood cell alloimmunization among hospitalized patients: transfusion reactions and low alloantibody identification rate. Hematology, transfusion and cell therapy. 2018 May 22;40(4):326-31.
- 4.Delaney M, Wendel S, Bercovitz RS, Cid J, Cohn C, Dunbar NM, Apolseth TO, Popovsky M, Stanworth SJ, Tinmouth A, Van De Watering L. Transfusion reactions: prevention, diagnosis, and treatment. The Lancet. 2016 Dec 3;388(10061):2825-36

The advertisement is split into two horizontal sections. The top section has a teal background on the left and a white background on the right. On the left, it features the text 'Principle 50+' in large white font, followed by 'A comprehensive multivitamin formula for adults aged 50 and over' in smaller white text. Below this is an image of the 'Principle 50+' product box. On the right, there is a photograph of an elderly couple smiling and hugging. The bottom section has a pink background. On the left, there is a photograph of a young woman in a purple athletic top running. On the right, it features the text 'Principle Woman' in large white font, followed by 'A comprehensive multivitamin especially formulated for women's health and well-being' in smaller white text. Below this is an image of the 'Principle Woman' product box. At the bottom of the advertisement, there is a blue banner with a Union Jack flag on the left, the text 'Manufactured in the U.K.', the website 'www.principlevitamins.com' in the center, and 'Made in the U.K. by Principle Healthcare International Limited, Airedale Business Centre, Millennium Road, Skipton, BD23 2TZ United Kingdom.' on the right.

Principle 50+
A comprehensive multivitamin formula for adults aged 50 and over

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Airedale Business Centre, Millennium Road,
Skipton, BD23 2TZ United Kingdom.

DELIRIUM IN ELDERLY

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Introduction

Delirium is a common clinical syndrome, which is characterized by inattention and acute cognitive dysfunction. It is characterised by following features

- Transient
- Reversible
- Acute onset
- Fluctuating course

It is also termed as acute confusional state/toxic–metabolic encephalopathy.

Aetiology

The causes of delirium are diverse and multi-factorial. Its development depends on combination of predisposing, non-modifiable factors and precipitating, often modifiable factors.

Potentially modifiable risk factors

- 1.Sensory impairment (hearing or vision)
- 2.Immobilization (catheters or restraints)
- 3.Medications = sedative hypnotics, anticholinergic, polypharmacy, alcohol withdrawal
- 4.Acute neurological diseases = acute stroke, intracranial bleed, meningitis, encephalitis
- 5.Intercurrent illness = Infections, dehydration, poor nutritional status, trauma
- 6.Metabolic derangement
- 7.Surgery
- 8.Environment (admission to an intensive care unit)
- 9.Pain
- 10.Emotional distress
- 11.Sustained sleep deprivation

Non-modifiable risk factors

- | | |
|--|------------------------------------|
| 1.Dementia or cognitive impairment | 4 Multiple cor- morbidities |
| 2.Advancing age (>65 years) | 5 Male sex |
| 3.History of delirium/neurological disease/falls | 6 Chronic renal or hepatic disease |

Clinical features

The clinical presentation of delirium can be classified broadly into three subtypes

- 1)Hypoactive,
- 2)Hyperactive and
- 3)Mixed.

Patients with hyperactive delirium presents with restlessness, agitation and often experience hallucinations and delusions, while hypoactive delirium present with lethargy and sedation. The hypoactive form is more common in elderly and can be confused with depression or some form of dementia. Patients with mixed delirium shows both hyperactive and hypoactive features.

Postoperative delirium can develop on 1st or 2nd postoperative day and is often hypoactive and might, therefore, go unnoticed.

Diagnosis of delirium in elderly

Diagnosis of delirium is clinical and various tools can be used for its diagnosis, especially in difficult setting like in intensive care unit. DSM-V criteria for its diagnosis is illustrated below (Figure 1).

Figure 1. DSM-V criteria for delirium

| Delirium | |
|--|---|
| A. There is an alteration in attention and awareness. | |
| B. The alteration represents an abrupt change from the client's baseline and fluctuates throughout the day. | |
| C. There is also an alteration in the client's cognition. | |
| D. The alterations in Criteria A and C are not better accounted for by another disorder. | |
| E. There is physical evidence that the alteration is caused by a medical condition, substance, or a variety of causes. | |
| Specifiers | |
| Substance intoxication delirium | Rather than substance intoxication, this diagnosis is made when the predominate symptoms are from Criteria A and C and are severe enough to constitute a medical emergency. |
| Substance withdrawal delirium | Rather than substance withdrawal, this diagnosis is made when the predominate symptoms are from Criteria A and C and are severe enough to constitute a medical emergency. |

Various international society have recommended Confusion Assessment Method (CAM) to detect delirium (figure 2), which has a sensitivity of >94%, specificity of >90% and is easy to use in a clinical setting (3).

| Confusion assessment Method (CAM) | |
|--|--|
| 1. Acute onset and fluctuating course | <ul style="list-style-type: none"> • Is there evidence of change in cognition from baseline? • Does this fluctuate during the day? |
| 2. Inattention | <ul style="list-style-type: none"> • Does the patient have difficulty focusing attention? • Do they seem distracted? |
| 3. Disorganised thinking | <ul style="list-style-type: none"> • Does the patient have disorganised thinking, rambling speech or seem incoherent? |
| 4. Altered level of consciousness | |
| Rate the level as follows: | |
| | <ul style="list-style-type: none"> • Alert, hyper alert, lethargic or drowsy, stupor, coma |
| All patients must have 1 and 2 with either 3 or 4 to diagnose delirium | |

Figure 2. Confusion assessment method (CAM) tool

Differential diagnosis of delirium in elderly

Important differentials includes (figure 3) –

1)Dementia

2)Depression

3)Psychotic disorders

| Feature | Condition | | | |
|------------------------------|---------------------------------------|--|------------------------------|--|
| | Delirium | Alzheimer disease | Psychotic disorders | Depression |
| Descriptive features | Confusion and Inattention | Memory loss | Loss of contact with reality | Sadness, anhedonia |
| Onset | Acute | Insidious | Acute or slow | Slow |
| Course | Fluctuating, often worse at night | Chronic, progressive (but stable over the course of a day) | Chronic, with exacerbations | Single or recurrent episodes; can be chronic |
| Duration | Hours to months | Months to years | Months to years | Weeks to months |
| Consciousness | Altered | Normal | Normal | Normal |
| Attention | Impaired | Normal, except in late stages | May be impaired | May be impaired |
| Orientation | Fluctuates | Poor | Normal | Normal |
| Speech | Incoherent | Mild errors | Normal or pressured | Normal or slow |
| Thought | Disorganized | Impoverished | Disorganized | Normal |
| Illusions and hallucinations | Common (often visual) | Rare, except in late stages | Common | Not usually |
| Perceptions | Altered | Altered or normal | Altered | Normal |
| Psychomotor changes | Yes | No | Yes | Yes |
| Reversibility | Usually | Rarely | Rarely | Possibly |
| EEG reading | Moderate to severe background slowing | Normal or mild diffuse slowing | Normal | Normal |

Figure 3. Differential diagnosis of delirium in elderly

Approach to delirium in elderly

Delirium is partially reversible if cause can be identified and treated promptly. Evaluation of delirium in elderly should consider multiple causes rather than a single cause, so all the reversible factors contributing to delirium should be evaluated. A useful approach for delirium evaluation is mentioned below .

- History = alterations to sleep-wake cycle, nutrition, falls.
- Review medications.
- Physical examination = vital signs, postural drop, pulse oximetry, palpate bladder for urinary retention, per rectal examination for stool impaction, neurological assessment.

Initially investigate to rule out common causes of delirium and also target the issues arising from history and examination ☐ If cause of delirium not identified, investigate for less common causes .Baseline evaluation for all = hemogram, renal function tests, electrolytes, liver function tests, serum glucose, urine analysis and culture, other cultures as indicated (sputum/blood/etc.).Specialised evaluation based on history and examination = ECG, abdomen ultrasound with post- voidal residual volume, CXR, CT head. Further evaluation if no cause detected by above approach = TSH, Toxicology screen, B12 and folate levels, VDRL, LP, EEG, ANA and ENAs

Prevention of Delirium in the Elderly

Around 30–40% of cases of delirium are preventable, and prevention is best strategy for minimizing the occurrence of delirium and its adverse outcomes. Nursing interventions are useful in detecting and improving delirium at home (4). Larger RCTs are needed before recommending haloperidol for routine prophylaxis of delirium (5). RCTS have failed to show benefit of cholinesterase inhibitors in prevention of postoperative delirium (6).

Environmental Strategies

- 1.Orientation to time = room should have unobstructed view to the outside world, have appropriate lighting at daytime, have minimal lighting at night, provide clock and calendar.
- 2.Orientation to place = avoid frequent room changes, encourage family and carer's to bring in personal and familiar object
- 3.Orientation to people = encourage family and carer involvement by facilitating visiting
- 4.Reduction in disturbance to environment = single room, reduce noise (e.g. alarmed medication delivery devices, televisions, trolleys), Facilitate undisturbed sleep at night, Avoid sleep deprivation
- 5.Provide routine = scheduled rest period, encourage wakefulness during daytiem, Meal at regular intervals and times

Clinical Practice Strategies

- 1.Ensure optimal function = hearing aids/visual aids, regular mobilisation, encourage independence, encourage and assist to ensure proper hydration and nutrition, monitor and regulate bowel function
- 2.Ensure culturally sensitive approach
- 3.Maximise comfort = Manage pain, minimise invasive procedures, address issues exacerbating emotional distress
- 4.Minimise perception of threat = avoid use of physical restraint
- 5.Caution with medication = minimise medication, avoid psychoactive and anticholinergic drugs
- 6.Prevent, identify and treat medically reversible problems = dehydration, malnutrition, electrolyte abnormalities, anaemia, depression, renal impairment, urinary retention.

Management of delirium in elderly include non-pharmacological acute treatment strategies and it the 1st line treatments for all patients with delirium. Approaches include reorientation and behavioural intervention. Minimise sensory impairments (vision and hearing loss via spectacles or hearing aids). Avoid physical restraints.

Environmental interventions = as described in prevention.

Pharmacological strategies

- Used if safety is an issue. Doses of medications have been summarised in table 3.
- Start at low dose for minimum possible duration.
- Neuroleptics = preferred agents for acute agitation. oHaloperidol = most widely used neuroleptic for this indication and has an established benefit (7).

Some atypical antipsychotics have shown comparable efficiency as with haloperidol.

- RCTs have failed to show benefit of cholinesterase inhibitors.
- Benzodiazepines (eg. Lorazepam) = not recommended as 1st-line agents due to risk of exacerbation of mental status and oversedation. May be beneficial if patient has excessive anxiety symptoms, with severe agitation that is not responding to anti-psychotics, or when antipsychotic medication is contraindicated. Recent trials on prevention and treatment on delirium includes [7]
- Sugammadex (completely reverses NMB without cholinergic side effects) = did not reduced postoperative delirium when compared with conventional cholinesterase inhibitors in surgical patients (8).
- For patients > 65 years old admitted to ICU after non-cardiac surgery = prophylactic low-dose dexmedetomidine significantly decreases delirium during first week after surgery (9).

The Winter Rose

Creative Corner

Amidst the coldest winter storms
A vibrant yellow rose, in its full bloom
Resting on a bush that has nothing but thorns
In the garden of a gloomy old nursing home!

I see it through my shabby little window
And wonder if my own dear roses are still alive
Hiding in the shadows of (then) my little bungalow
I know one thing; no matter what, they will thrive

I nurtured them with all my love and care
They filled my day with colours in return
Here I mourn, as I can never get back there
I can never get back, as it's someone else's turn

I dream of my garden, filled with dazzling roses
A young man picking them gently, for his newly wed wife
Or children giggling, as the petals tickle their noses
Or a bereaved old man, taking them to the love of his life

I ponder upon the seasons that passed, as I stand alone and old
I cherish my colourful roses, yet they belong to the spring
My dear winter rose, striving hard in the cold
Let me embrace you tight, for the warm glow you bring

Dr.Madushani Dias,

Consultant Old Age Psychiatrist



The passage of time

Sitting by the window with a cup of coffee nearby,
Glancing at the time slowly passing by.
Shadows of by-gone days do dwell;
Time rushes onward, each moment a spell.

Lines like rivers on the face aged fine,
Smiles never faded keep inner beauty shine.
A life spent worthy, no regrets, no tears;
A woven tapestry of memories throughout the years.

A wisdom of years, rapture amongst pains,
Mundane thoughts amidst genius brains.
Once a great warrior throughout the life she fought;
Weight of the world has burdened her soul, a heavy thought.

Leaves dance across life's autumn breeze;
Whispers of laughter float through the trees.
In the twilight glow, her spirit ignites,
Finding strength in shadows, embracing the nights.



Dr N Madhuwanthi Hettiarachchi

Consultant Physician in Internal Medicine

Teaching Hospital

Peradeniya

Falling Through the Cracks: Addressing the Hidden Crisis of Falls Among Sri Lanka's Aging Population

Dr. Warsha De Zoysa, Consultant Physician and Senior lecturer in Medicine, Faculty of Medicine, Ruhuna

Introduction

Sri Lanka, a rapidly aging South Asian country, faces a looming public health crisis: falls among the elderly. By 2041, it is projected that 1 in 4 Sri Lankans will be over the age of 60 (1), making geriatric health a critical priority. Falls, a common and often overlooked issue, are emerging as a major threat to the well-being of older adults. In community-dwelling elderly populations in Sri Lanka, the prevalence of falls is estimated at 30%, with a significant proportion experiencing recurrent falls (2)(3). Despite these alarming figures, falls remain a neglected aspect of geriatric care, contributing to morbidity, mortality, and a decline in the quality of life among older adults.

The Prevalence of Falls in Sri Lanka's Elderly Population

The prevalence of falls in the elderly in Sri Lanka mirrors global trends, with approximately one-third of community-dwelling older adults reporting at least one fall each year. However, recurrent falls are also a concern, with around 10-15% of older adults experiencing two or more falls annually(4). Approximately a third of older fallers sustain fall-related injuries, which require medical treatment. These numbers are likely underreported due to factors such as fear of losing independence, social stigma, and a lack of awareness about the consequences of falls. Additionally, falls in institutional settings, such as nursing homes and hospitals, are often not captured in official statistics, further underestimating the true burden of this issue.

Causes of Falls in the Elderly

Falls in the elderly are multifactorial, arising from a complex interplay of intrinsic and extrinsic factors. Some of the key causes include:

Intrinsic Factors:

Age-Related Physiological Changes: As individuals age, they experience declines in muscle strength, balance, and coordination, all of which contribute to an increased risk of falls.

Chronic Diseases: Conditions such as diabetes, cardiovascular disease, and arthritis can impair mobility and balance, increasing the likelihood of falls. Elderly patients are likely suffering from more than one chronic disease: multimorbidity. It has been widely demonstrated that multimorbidity correlates positively with incidence of falls and recurrent of fall (5). Cognitive impairment, including dementia, also plays a significant role in falls risk.

Medications: Polypharmacy, the use of drugs with high anti-cholinergic burden and falls risk increasing drugs all contribute to falls in older adults (6). Polypharmacy, is common among older adults with multimorbidity, can lead to side effects such as dizziness, hypotension, and impaired alertness, which heighten the risk of falling.

Extrinsic Factors:

Environmental Hazards: Poorly lit or cluttered living spaces, uneven flooring, and lack of grab bars in bathrooms are common environmental factors contributing to falls in older adults.

Footwear and Assistive Devices: Improper footwear and incorrect use of assistive devices, such as walkers and canes, can also contribute to falls.

Consequences of Falls

Falls in older adults can have devastating consequences, leading to physical, psychological, and social repercussions. The physical consequences of falls range from minor injuries, such as bruises and sprains, to more severe outcomes, including fractures (especially hip fractures), head injuries, and even death. In Sri Lanka, as in many other countries, falls are a leading cause of injury-related hospitalizations among older adults. Furthermore, the psychological impact of falls can be profound, with many older adults developing a fear of falling, which in turn leads to reduced mobility, physical deconditioning, and increased dependence on others for daily activities.

The social consequences of falls are equally significant. Falls often result in a loss of independence, with many older adults requiring assistance with activities of daily living (ADLs) or needing to move into institutional care. This places a considerable burden on families, caregivers, and the healthcare system. Additionally, falls can lead to social isolation and depression, further diminishing the quality of life of older adults.

Current Approaches to Fall Prevention

Despite the high prevalence and serious consequences of falls in the elderly, fall prevention remains an under-prioritized area in geriatric care in Sri Lanka. Current strategies to address falls are fragmented and lack a coordinated, multidisciplinary approach. Some of the existing initiatives include:

Community-Based Fall Prevention Programs: These programs focus on educating older adults and their families about fall risk factors and prevention strategies. However, the reach and effectiveness of these programs are limited by a lack of resources and trained personnel.

Hospital and Nursing Home Protocols: Many hospitals and nursing homes have protocols in place to prevent falls, such as regular assessments of fall risk and the implementation of safety measures (e.g., bed rails, non-slip flooring). However, these protocols are not consistently applied, and staff may not receive adequate training in fall prevention.

What Can Be Done?

To address the growing burden of falls in Sri Lanka's elderly population, a comprehensive, multi-faceted approach is needed. Key strategies include:

Raising Awareness and Education: Public health campaigns should focus on raising awareness about the risk factors for falls and the importance of fall prevention. Educational programs targeting healthcare

providers, caregivers, and older adults themselves are essential for fostering a proactive approach to fall prevention.

Strengthening Primary Care and Geriatric Services: Primary care physicians play a crucial role in identifying older adults at risk of falls and implementing preventive measures. However, many primary care settings in Sri Lanka lack the resources and training to effectively manage fall risk in older adults. Strengthening geriatric services and integrating fall prevention into routine care for older adults is essential.

Promoting Physical Activity and Balance Training: Regular physical activity, particularly exercises that improve strength and balance, is one of the most effective ways to prevent falls in older adults. Community-based exercise programs, focusing on muscle strengthening and balance training classes, should be promoted and made accessible to older adults across the country.

Environmental Modifications: Making homes and public spaces safer for older adults is another key component of fall prevention. This includes installing grab bars, improving lighting, removing tripping hazards, and ensuring that assistive devices are used correctly.

Medication Review and Management: Regular review of medications by healthcare providers can help identify and minimize the use of drugs that contribute to falls. Reducing polypharmacy and ensuring that older adults are taking medications appropriately can significantly reduce the risk of falls.

Developing a National Falls Registry: Establishing a national registry to track falls and related injuries in older adults would provide valuable data for monitoring trends, identifying high-risk groups, and evaluating the effectiveness of prevention programs.

Conclusion

Falls among the elderly in Sri Lanka represent a hidden crisis that requires urgent attention. As the country's population ages, the burden of falls will continue to grow, placing increasing strain on families, caregivers, and the healthcare system. By taking a proactive, multi-disciplinary approach to fall prevention, Sri Lanka can mitigate the impact of falls on its aging population and improve the quality of life for older adults. This requires collaboration between healthcare providers, policymakers, and the community to ensure that fall prevention becomes a national priority. Investing in fall prevention today will yield significant benefits in the years to come, helping Sri Lanka's elderly population age with dignity, safety, and independence.

References

1. Samaraweera D, Maduwage S. Meeting the current and future health-care needs of Sri Lanka's ageing population. *WHO South-East Asia J public Heal*. 2016 Sep;5(2):96–101.
2. Gamage N, Rathnayake N, Alwis G. Prevalence and associated risk factors of falls among rural community-dwelling older people: A cross-sectional study from Southern Sri Lanka. *Curr Gerontol Geriatr Res*. 2019;2019.
3. Ranaweera AD, Fonseka P, PattiyaArachchi A, Siribaddana SH. Incidence and risk factors of falls among the elderly in the District of Colombo. *Ceylon Med J*. 2013;58(3):100–6.

4. Weerasuriya N, Jayasinghe S. A preliminary study of the hospital-admitted older patients in a Sri Lankan tertiary care hospital. *Ceylon Med J*. 2005;50(1):18–9.
5. You L, Guo L, Li N, Zhong J, Er Y, Zhao M. Association between multimorbidity and falls and fear of falling among older adults in eastern China: a cross-sectional study. *Front public Heal*. 2023;11:1146899.
6. Green AR, Reifler LM, Bayliss EA, Weffald LA, Boyd CM. Drugs Contributing to Anticholinergic Burden and Risk of Fall or Fall-Related Injury among Older Adults with Mild Cognitive Impairment, Dementia and Multiple Chronic Conditions: A Retrospective Cohort Study. *Drugs Aging* [Internet]. 2019;36(3):289–97. Available from: <https://doi.org/10.1007/s40266-018-00630-z>



DIAL

1353

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Collection



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Nasogastric Tube (NG) Services (Insertion, Changing
and Support Feeding) NG tube



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hospital-quality care at your home

