

Guest Lectures

New Tools of Assessment and Measurement in Geriatric Medicine

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Large majority of older people after maintaining good health in early part of late adult life enter into a phase of frailty and require long term care either within the confines of their home or in long term care institutions depending on social norms and economic development. Measuring health, functionality and morbidity status in geriatric practice is a major issue. Comprehensive Geriatric Assessment which has evolved over decades of research, most of these areas of assessment and have been assimilated into the geriatric practice all over the world. However, care of frail older patients requires additional attention to a broad range of potentially interrelated problems linked to relentless biological decline, multiple chronic disease, cognitive impairment, multiple prescriptions, level of training of formal and informal care givers, quality of care (both in home and nursing home), financial status of the family or the funding status in a welfare state etc. All these issues ultimately determine the quality of life of the older person in frail state of health. Assessment of these issues is not only complex but also needs specific tools for measurement. The tools need to have a long term perspective to measure the state of health and functionality over time, quality of care, functioning of the care system, and value for money spent in care in both public and private long term care system. Responding to these needs systems of "Minimum Data Set (MDS)" for measurement of long term care has evolved in countries with well defined long term care and geriatric medicine starting in mid 1980s. There are several such MDS instruments, among which "interRAI" has emerged as the leading one. Over the next few decades these interRAI/ MDS instruments have been implemented in emergency care, acute care, post acute care, assisted living and residential care, home care, palliative care, intellectual disability, physical disability and mental health care. Many of these instruments can be used both in community as well as community setting. These new instruments have several other applications in addition

to their primary function of supporting care planning. These include quality measurement, case mix measurement, program evaluation, assessment of priority level etc. The interRAI/ MDS instruments have not yet been introduced to Indian health care system. However, with increase in the population of older people in the country, changing social structure and corporatisation of health care, it is anticipated that objective assessment tools will soon become a part of Geriatric Medicine in India.

Comprehensive Geriatric Assessment (CGA) : Multidimensional Approach to a Geriatric Patient

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Quick and effective comprehensive clinical evaluation of health status of an older individual, particularly a frail old patient with multiple medical and functional problems, is a challenging task. It requires sensitivity to the concerns of older people, awareness of unique aspects of their medical problem, an ability to interact effectively with a variety of health professionals, and a great deal of patience to detect subtle findings.

CGA refers to the multi-faceted approach of diagnosing and managing complex physical, psychological and functional problems. CGA focuses on the preservation or improvement of the older adult's function rather than curative aspect. Primary care physician can easily perform modified CGA, identify the problems and set the priority for their management.

Geriatric Clinical Pharmacology & Therapeutics

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Pharmacological responses are altered with age and adverse reactions occur frequently in elderly patients. Older patients often have multiple chronic diseases that require concurrent medications because organ function and pharmacological responses are

more variable among these individuals. As age increases the effects of standard doses are difficult to predict. Increased drug use, decrease predictability of response, and increased susceptibility to adverse reactions are among the factors that complicate effective therapeutic interventions in elderly patients.

Synopsis of important principles

1. In elderly patients, decreased renal and hepatic clearance of some drugs increases the risk of adverse drug reactions.
2. Drug concentrations achieved for a given dose, the duration of drug activity, and the organ response to a given drug concentration may be altered in elderly patients.
3. Normal homeostatic responses to drug-induced perturbations are impaired with aging.
4. Elderly patients frequently experience multiple illnesses and take many drugs concurrently.
5. The combination of altered drug activity, impaired homeostasis, and the use of multiple drugs by elderly patients result in frequent adverse drug reactions.
6. Although, difficult to recognize in elderly patients, adverse drug reactions are a frequent cause of morbidity and may precipitate hospitalizations.
7. The risk of adverse drug reactions increases with the number of drugs taken, it is important to discontinue any treatment that is not efficacious.
8. Due to neurological, visual and auditory disabilities, elderly patients may have difficulty complying with drug regimens.
9. Some chronic diseases in elderly patients cannot be effectively treated with drugs.
10. The importance of a critical and conservative approach to drug therapy in elderly patients cannot be overemphasized.

Osteoporosis in the Elderly

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Osteoporosis is a complex endocrinological disorder of bone and mineral metabolism. Osteoporosis -i.e. porous bone is reduced bone mass per unit volume with a normal mineral to matrix ratio. Fracture is the single morbid event and the most significant clinical manifestation of osteoporosis. Osteoporosis is a major global health problem of the ageing population and

ranks as one of the five costliest diseases of ageing after diabetes, hyperlipidemia, hypertension and heart disease. It has a profound impact on the socio-economic and psychological health of the ageing population and the society at large. Over the last two decades, substantial advances have been made in pathogenesis, diagnosis and management of osteoporosis; yet there is a lack of knowledge and controversies exist for definition and screening of osteoporosis, but there is no controversy in the statement that "prevention is better than cure".

1232 menopausal women with history of hysterectomy, back pain, joint pain, thyroid dysfunction and asthma underwent BMD testing by DEXA of the spine. The following results indicate the magnitude problem. It was found that 36% of the women were osteoporotic, 40% were osteopenic, 185 had normal density & 6% had high density (Data from Personal & Vomed, Diagnostic centre, Hyderabad).

The treatment of osteoporosis falls in the preview of the gynaecologists, rheumatologists, endocrinologists, family physicians, orthopedicians, surgeons, paediatricians and dentists too.

Incidence of osteoporotic fracture increased dramatically with age. Hip fracture is the most debilitating outcome as 12-20% die within one year, more than 50% become dependent and more than 30% have permanent disability. Spinal fracture causes loss of height, kyphosis, back pain and prolonged disability.

Strategies should be aimed at prevention of trauma and maintenance of bone mass in the elderly. The older the individuals the morbidity for osteoporotic fracture is much greater than in the young individuals. This is due to the associated co-morbid conditions like compromised health status, fragility, medications, declining cognitive function, poor eyesight and nutrition added to the psychosocial and environmental factors.

The goal is to prevent the first fragility fractures and further fracture if one has already occurred. Treatment modalities aim at stabilizing and increasing bone mass, relief of symptoms with improved functional status and independence.

At a community level attention need to be paid regarding innovative building solutions of home and living environment of the elderly to prevent falls. At an individual level diet and planned exercise programme, checking of any inappropriate medication contributing to falls should be looked into. The use of personal hip protection in the high risk population should be encouraged.

Various pharmacological therapies are available for the management of osteoporosis in the elderly.