

Aging and health in India

S Irudaya Rajan

Professor, Centre for Development Studies,
Thiruvananthapuram

Globally, as of now, 10 percent of the world's population is elderly and it is expected to increase to 21 percent in 2051. In absolute numbers, it is likely to increase from the current 600 million to 1.97 billion in 2051. India is the second largest country in the world, with 76 million elderly persons above 60 years of age as of the just released 2001 Indian census, compared to China's 127 million. According to the 1961 census, India had an elderly population of just 25 million, trebled to 76 million in 2001 in the span of 50 years. Similarly, the proportion of elderly has shown an increase from just 5.6 percent in 1961 to 7.5 percent in 2001. On the other hand, the number of elderly above 70 years was enumerated as 28.3 million and 8 millions were enumerated as above 80 years of age. The current growth rate of elderly population is higher than the general population growth rate of 2 percent. As India is passing through the last phase of demographic transition, the life expectancy among elderly at age 60 was estimated at 16 years for males and 18 years for females and at age 70, it was 10 years for males and 12 years for females. Among the 35 states and union territories of India, Kerala has registered the highest proportion of elderly with 10.5. Around 75 percent of the Indian elderly live in rural areas. According to our projections, the elderly population aged 60 and above is expected to increase from 76 million in 2001 to 179 million in 2031 and further to 301 million in 2051. Similarly, the old old (70 years and above) are projected to increase five-fold between 2001 to 2051, 28 million in 2001 to 132 million in 2051. The oldest old (80 and above) in India are expected to grow faster than any other age group, 8 million in 2001 to 32 million in 2051. The increasing number and proportion of elderly will have a direct impact on the demand for health services. Currently, the Government of India runs various health programs targeted primarily at the needs of mother and children. The primary health care system is not geared up to meet the future challenges arising from an increase in chronic diseases. Conditions like hypertension, diabetes, osteoporosis resulting in fractures, which have higher incidence among the aged, will pose an increasing burden to the

elderly themselves and to their families. Mobilizing additional resources for geriatric care will emerge as a major responsibility of health care providers. Achieving this without affecting maternal and pediatric care will be a challenge.

Strategy for development of old age care in India in India

A B Dey

Professor, Department of Medicine, All India Institute of Medical Sciences, New Delhi

The full implications of an ageing population have yet to be sufficiently recognized by the society and the State. This has resulted in weak support for the care of this segment of the population, though there have been numerous measures undertaken by religious and charitable nongovernmental organizations supported by public donations. The care of older people in India follows a long-standing cultural pattern. It is expected that older people will live and be taken care of within the homes of their families. However, with changing economic and social norms, families are finding it increasingly difficult to undertake these responsibilities without support. In order to provide this support, policy-makers, the mass media, civil society and the general population need to be made aware of this demographic transition, the needs of older people and the measures that can be taken to respond to these needs. Formulation of national policy and its implementation require political will, clear planning and role-defining. The policy needs to be implemented through a strategy. Some degree of prioritization is essential to show short-term results in order to attract public attention. To this end, awareness campaigns, improvement of clinical care of the elderly through short-term training of health workers and other community programmes in collaboration with nongovernmental organizations are visible initiatives. The policy also needs to be revisited and revised from time to time as per the necessity. There is global consensus on the role of primary health care centers in old age care which have to be created on the principles of Age Friendly PHC concept of World Health Organization. The credibility of primary health care services is directly dependent on the efficacy of the clinical care they provide, which in turn will influence their role in providing promotive and preventive care. One of the important issues in healthy and active ageing

is strong participation of the older people in society. This involvement recognizes and enables the active participation of people in economic development activities, formal and informal work and voluntary activities as they age, according to their individual needs, preferences and capacities. Training of health professionals in providing good quality health care to the elderly at all levels of health care (primary, secondary, tertiary), at both the pre-qualification stage (in medical school, nursing school, etc.) and in-service (primary care physicians, community health workers, etc.) should be an important part of the strategy. The health care of the elderly should be considered from several angles: for example, ambulatory care, home care, short-term institutional care and long-term institutional care. The training inputs for each of these are distinct and need to be developed accordingly. The formation of networks of organizations and individuals interested in the welfare of the elderly can be of great value in addressing the challenges of old age care. For any strategy or policy to be successful, it must be supported by an authentic and strong evidence base. The components of this data base should be: The components of this research will include: demography, economic status, health and disability status, health behavior, health service availability and utilization, predictors of good health, longevity and disability and health related quality of life in relation to different types of intervention.

Mental health research in older people

Ravinder Singh, Bela Shah

Senior Research Officer, Senior Deputy Director General and Chief, Division of Noncommunicable Diseases, Indian Council of Medical Research, New Delhi

Due to increased life expectancy at birth, the population of older persons in India is increasing at much faster rate than the developed countries. Those aged 60 and over contribute approximately 8% of the country's population at present. The population explosion taking place is a factor of great concern as it leads to poverty, neglect, abuse, violence, crime, and more importantly overcrowding, all of which have direct relation with mental health of the older persons. Improved health care promises longevity, but social and economic conditions like poverty, isolated families and poor social and health services, specifically for the aged, pose a psychiatric threat to them. All these factors, affecting the physical and mental health in this population need to be addressed. Isolation, loneliness,

retirement and loss of partner are major factors for the deterioration of mental health in old age. Geriatric mental health will become increasingly important in years to come as the care of the elderly becomes a major public health concern in India. Urbanization has also isolated the families and older persons as well as increased stress in day-to-day life. Organic diseases and effective disorders form the bulk of psychiatric illness in the aged. The studies in India shows that the older persons are suffering from large number of psychiatric problems like neurosis, anxiety disorders, depression, Alzheimer's disease, dementia, suicides and schizophrenia. Research in areas such as changing social and cultural attitudes, and national economics, is a promising field for preventive mental health services.

The older persons suffering from psychiatric diseases need long term care, thus putting tremendous pressure on financial resources of the family. Psychological stress on the caregivers is another vital concern. It is very important to evolve systems to take care of these care-givers also. The lack of rehabilitation service needs for older persons with severe mental disorders is also gradually being recognized.

Elderly Primitives of Orissa – Health Status

S K Kar, A S Kerketta, Gandham Bulliyya, Bontha V Babu

Regional Medical Research Center, Bhubaneswar

Increase in the proportion of elderly people is one of the major features of demographic transition in the world. Elderly comprises of one of the important vulnerable groups having health problems mostly due to degenerative changes. And thus, social and physical well being of this group has become a challenging issue. There is dearth of studies among the Indian elderly, particularly from tribal population, to assess the health status. It is well known that the tribal are more vulnerable to health as well as access to health care than rural and urban counterparts. The primitive tribal groups of Orissa have relatively little or no access to even most elementary forms of health care. The present study has been undertaken to assess the morbidity pattern elderly population of four primitive tribes namely Kutia Kondh, Dongria Kondh, Langia Saura and Paudi Bhuiyan living in Phulbani, Rayagada, Gajapati and Sundargarh district of Orissa. A total of 964 elderly subjects belonging to Paudi Bhuyan (454), Kondh (Kutia + Dongria 248) and Lanjia Saura (262) were

studied. After obtaining the informed consent each subject were interviewed through a pre-tested questionnaire followed by clinical examination. Finger prick blood was collected for hemoglobin estimation by Cyanomethemoglobin method. Weight, blood pressure and data other data collected using standard methods. Common communicable diseases were respiratory tract infection (5%), tuberculosis (5%), and leprosy (2%). The prevalence hypertension was 38% with 15% of pre-hypertensive condition (systolic blood pressure 121-140 and/or diastolic blood pressure 81-90). The anemia of different grades was found in 73% of the elderly people. The value for body mass index (BMI) was correlated with anemia ($r=0.01$) indicating that anemia is associated with other nutritional deficiencies. Hypertension was not associated with anemia. The nutritional deficiency disorder like Goitre was found in 3%. The other diseases like asthma, acid peptic disorders are also found to be prevalent. In addition, other non-specific problems like backache, joint pain, fever and disability linked problems like impaired hearing, mobility and vision also highly prevalent among this groups. This study warrants implementation of special healthcare strategy to tackle the health problems of elderly in tribal communities.

The Quest for 'Eternal Youth'

Mina Ketan Kar.

Professor of Medicine (Rtd.), V.S.S. Medical College, Burla, Orissa

There is a sea change in the demographics of the ageing world and the number of elderly population in the world is likely to reach 1.2 billion by 2025. Apart from the physical age-related problems which is going to be a great economic concern, social discrimination is of grave issue. So there is a relentless search for the responsible factors for the ageing process and maneuvers to halt or even to reverse it. Two directions of research have gained momentum: 1. Genetic manipulation and 2. Prevention of oxidative damage. Genetic research has shown that ageing occurs due to progressive shortening of the telomere begin of the chromosomes. Telomerase and tankyrase enzymes can prevent this telomere shortening and prevent ageing. Similarly apoptosis, which eliminates malfunctioning cells, can be manipulated for better survival. Cumulative damage to DNA due to both internal and environmental oxidative free radicals accelerates

the process of ageing. So antioxidant supplementation and drugs to prevent oxidative damage have been tried to retard ageing. There is progressive decline in the IGF-I-hypothalamo-pituitary axis with the process of ageing. Various replacement therapies have been tried to supplement this deficit with some success. Thus, though the real "Elixir of Youth" has not yet been found which can result in "Eternal Youth", current research has certainly raised some hope in the future.

Life style Modification in Elderly

Shishu Shankar Mishra

Director and Consultant Cardiologist, MED 'n' HEART CLINIC, Bidanasi, Cuttack.

With the advent of science and modern technology, man is becoming more lethargic, sedentary and dreams of all material comforts with less effort. This change in life pattern has percolated to the common mass, which resulted in the phenomenal increase in stress and its related diseases. In south Asians and the world over there is an increase in the metabolic syndrome, diabetes mellitus, obesity, hypertension, ischemic heart disease. In growing population of elderly, the addition of stress of joints, bones, eyes, genitourinary tract etc are adding to the problem. The issue of life style modification is to address the problem of mind and body together. Life style modification has definitely improved the mortality, morbidity in cardiovascular system and even angiography proven reversible changes are demonstrated in many trials of 2-5 years duration only. But life is a long on going process. For a beautiful aging and matured life one should plan from early childhood, enjoy a programmed youth to reach the matured young age of sixty and beyond...even hundred and beyond. In this context, the issues related to life, like diet, exercise, sleep, sex, celibacy, personality, mental stress are to be addressed in proper prospective. The life style modification has become a common denominator in the management of all non-communicable diseases in the present era. Control of blood pressure, weight: optimization (normalization of BMI), limiting the dyslipidemia, DASH diet (with Indian habit related modification), controlling blood sugar in patients of diabetes. Improving the mental and environmental and socio-economic factors along with the optimization of a good physical health will create a good scope to enjoy the elixir of life with growing age.

Heart and Ageing

G C Patri

Cardiologist, Hi Tech Medical College, Bhubaneswar

With a growing population of senior citizens, it is imperative to recognize age related physiological changes in cardiac structure and function. Even in absence of any pathological disease, the incidence of left ventricular hypertrophy, heart failure and atrial fibrillation increases dramatically with age. Increase in carotid intimal medial thickening by two fold occurs by 90 yrs of age even in absence of atherosclerosis. Isolated systolic hypertension due to increased pulse wave velocity and augmentation of reflected waves is common. Increased LV mass and altered diastolic filling pattern contributes to impaired LV ejection and heart rate reserve capacity. There is deficient intrinsic myocardial performance and increased after-load partly due to decrease in Beta adrenergic stimulation and decreased pulsatile component of after-load. Reduction of maximal work capacity is contributed both by reduced cardiac performance and peripheral factors. Some of the factors can be improved by physical conditioning. Age associated increase of LVH, AF and CHF become interrelated. Heightened LV stiffness promotes increased LVEDP contributing to diastolic heart failure. Atrial fibrillation in such a setting precipitates pulmonary edema acutely. Associated coronary artery disease or aortic valve disease worsens the clinical outcome. Pharmacotherapy with ACE inhibitor and statins may contribute to reduction of age related changes in LV thickness, vasculature and aortic valve in elderly

Pre clinical Atherosclerosis : Contain the fire before it burns

Shishu Shankar Mishra

Director and Consultant Cardiologist, MED 'n' HEART CLINIC, Bidanasi, Cuttack

Ageing process is a biological reality and has its own dynamics, which is largely beyond human control. Commonly elder people die from atherosclerosis, cancer, or dementia, keeping aside accidents, infections, or other diseases. In the process of aging, atherosclerosis plays a vital role. It starts from the day of vascular formation in foetal life. In the process of continuous blood flow in the vessels, there is a continuous shear

stress, physical, biochemical, and immunological insult to the vessels and to note precisely, the insult to the endothelium. Atherosclerosis is a slowly progressive process, taking decades to be clinically evident. It can be very fast and progressive as in Progeria and Cockayne, where the life is programmed to end before 5-10 years. Today normal average longevity is progressively increasing from 3rd 4th decade in the middle of last century, and to 6th -7th decade in this century. The man is not contented, with this amount of age and wants to live still longer, with youthful vigour. To satisfy the concept of arresting the age, reversing the kinetics of aging – it is relevant to study atherosclerosis and its control. Be it erectile dysfunction, myocardial infarction, cerebrovascular accident, peripheral vascular disease, the common denominator is endothelial dysfunction, atherosclerosis leading to vascular morbidity and leading to clinical consequences. Atherosclerosis is a complex multifactorial process, which affects the large and medium sized arteries supplying the brain, the heart and the legs. This is the major cause of coronary artery disease. However, there is no unifying hypothesis that explains the sequence of pathological events in atherosclerosis. Based on the available literature, while sequencing the cascade of events leading to pathophysiology of atherosclerosis, the first to occur would be functional changes in the arteries leading to the loss of elasticity. This is followed by structural changes like fatty degeneration and foam cell formation, leading to intimal medial thickening, plaque formation and finally clogging of the artery interfering with blood flow; later, rupture of the atheromatous plaque occurs with consequent intraluminal thrombosis. This could result in a clinical event. Endothelial function can now be readily measured in humans (like echocardiography, Carotid Doppler study, Brachial artery study [FMD], which are now widely available everywhere). It is a very useful research tool to assess the effect of risk factors and their effect on treatment of vascular function. Clinically one can see the vessels directly by ophthalmoscopy. hs-CRP is also available as an early marker and contributor of atherosclerosis which can be treated and modified. A growing list of therapeutic modalities has been shown to modulate endothelial dysfunction (e.g. arginine, ACE-I, ARB, 3rd generation b-blockers, calcium channel antagonist, statins), which has important implications in the treatment of participants at risk of developing atherosclerotic complications. For the measurement of endothelial function to become a clinically useful tool, much work needs to be done. However, it is probable

that endothelial function testing will assume a prominent role in the evaluation and treatment of patients at risk of developing coronary atherosclerosis and its sequelae. So think early, investigate early and prevent, abort, or regress atherosclerosis and thus prevent peripheral vascular disease, cerebra-vascular disease and coronary artery disease, before a major catastrophe.

E-mail: drssmishra@yahoo.com

Hypertension in the Elderly

Y Sathyanarayana Raju

Additional Professor, Department of Medicine, Nizam's Institute of Medical Sciences, Hyderabad

The management of hypertension in the elderly has gained its due significance in the JNC VII on Prevention, detection, evaluation and treatment of high blood pressure. It has been addressed in special situations. Hypertension occurs in more than two thirds of individuals after 60 years of age. This is also the population with the lowest rates of BP control. Treatment recommendations for older people with hypertension including those who have isolated systolic hypertension, should follow the same principles outlined for the general care of hypertension. In many individuals lower initial drug, doses may be indicated to avoid symptoms however; standard doses and multiple drugs are needed in majority of older people to reach appropriate BP targets.

Isolated systolic hypertension in the elderly

Mrutyunjaya Behera

Professor and Head, Department of Cardiology, SCB Medical College, Cuttack

Isolated systolic hypertension (>140 / < 90 mm Hg) is prevalent among 54% of men and women aged 65 – 74 years and it increases to 72% among blacks. The risks of ISH at every level are greater in the elderly, at least up to 80 years than in younger patients as a result of adverse effects of age related atherosclerosis and concomitant illness. Pseudohypertension from markedly sclerotic arteries that do not collapse under BP cuff and cause higher cuff pressure than intra arterial BP. Progressive loss of adequate baroreceptor responsiveness with age. Increasing arterial stiffness leads to gradually higher level of systolic BP and lower levels of Diastolic BP with age. Elderly patients achieved greater reduction in coronary disease and

heart failure by effective therapy as compared to younger patients in multiple clinical trials. Rate of control of BP among elderly is much lower than among persons younger than 65 years; partly because systolic levels are more resistant to therapy and partly because practitioners are often hesitant to treat elderly hypertensives. Because many older patients require second (or third) medications to reach target BP, treatment decisions for elderly should focus on control of BP and extend beyond 1st line therapy with thiazide diuretics. Consideration of “compelling indications” of JNC – 7 that are highly prevalent in elderly should be given due importance in choice of antihypertensive therapy to optimize effects; minimize adverse effects, cost and the number of medications and increase adherence.

Management of coronary artery disease in the elderly

Prasant Kumar Sahoo

Senior Consultant, Department of Cardiology, Kalinga Hospital, Bhubaneswar

By 2050 the number of older people will exceed the young. Cardiovascular problems have been showing an upward trend in the elderly. Management of such problems is a challenging job for physicians. Blood pressure rises with age and is prevalent in approximately 50% of the elderly. Similarly coronary artery disease prevalence also increases with age. The prognosis of acute coronary syndromes is worse as the individual ages. Although higher mortality has been found in the elderly with use of thrombolytics (6.2% in younger vs. 17.2% in elderly), the number of lives saved are more (22/1000pts. in young vs. 35/1000 in the elderly). This highlights the fact that thrombolysis is highly efficacious in the elderly too. Thrombolysis has favorable results till the age of 75 years. Primary angioplasty is preferable beyond 75 years. Use of adjunctive therapy like LMWH; Clopidogrel; and GpIIb/IIIa inhibitors have shown favorable results in the elderly. CABGs in the elderly have shown higher early mortality 2-10% in between ages from 60yrs – 75 yrs. There is a 3-6% chance of a CVA in addition to higher chances of bleeding; prolonged ventilatory support and higher ionotrop use. Thus angioplasty would be a better choice in the elderly. Other common cardiovascular problems in the elderly include atherosclerotic aortic valve disease, atrial fibrillation and congestive heart failure. Tissue valves are a wise choice in the elderly.

Balloon Aortic valvuloplasty if feasible has an edge over valve replacement. Recent methodology adopts percutaneous aortic valve replacement. The incidence of atrial fibrillation doubles with each decade starting at 60 yrs. Rhythm control is rarely required and anticoagulation is done to keep the INR between 2.0-2.5. There has been a five fold increase in incidence of congestive heart failure. This disorder has a high mortality of up to 65% at end of 5 years. Thus managing cardiovascular problems in the elderly needs adequate understanding of the physiology for better delivery of pharmacotherapy. In view of the rising trend in elderly population, managing cardiovascular problems becomes an important issue in delivery of health care to the elderly.

Coronary Bypass Surgery after the age of 70 years Apollo Hospital, Chennai experience

Dillip Kumar Mishra

Apollo Hospital, Chennai

Starting from 1984, this hospital has performed more than 750 bypass surgery (CABG) in patients above 70 years age out of total 22,000 plus bypass surgeries. The majority of the patients are male. The associated diseases like Atherosclerosis of carotid arteries, Peripheral Vascular diseases, thyroid diseases, Sclerotic and calcific aortic valve diseases including aorta, age related CNS dysfunctions etc. makes the surgical risk higher. Initial two years of starting surgery in this hospital, we were reluctant to operate on higher age group. But since 1986 we operate any age group patients. With the advent of "OFF PUMP" bypass surgery since the year 1998, the post op recovery of these elderly patients has become more or less uneventful, with less than 1% mortality. We present our experience in managing these patients both pre and post op. with a special care during period of surgery (Intra operative).

Use of anti-bacterials in the elderly

Akshay O Parikh

Alembic- Specia, Mumbai.

Elderly individuals are most prone to develop different bacterial infections. In addition, these infections are associated with greater morbidity and higher mortality in the elderly. Age-related physiological and

functional changes make an elderly more susceptible to develop bacterial infections of the respiratory tract, urinary tract and that of the skin and soft tissues. Early diagnosis and prompt treatment of infections in the elderly poses special challenges for physicians. Fever and leukocytosis present less frequently or may even be absent in the elderly with infections. Elderly with infections commonly present with a change in mental status, acute unexplained functional decline, anorexia or a slight increase in the respiratory rate. The initial treatment of bacterial infections is empiric and directed at the likely causative pathogens. Age-related changes in pharmacokinetics often require a change in the dose, frequency and route of administration of antibacterials. Elderly have less body mass and more body fat; thus, water-soluble antibacterials (e.g. Aminoglycosides and beta-lactams) produce higher concentrations in plasma and tissue, and fat-soluble antibacterials (e.g. Doxycycline and chloramphenicol) produce lower concentrations. Similarly, half-lives of renally excreted antibacterials may be markedly prolonged in the elderly, especially if renal excretion is the only mode of elimination (as for aminoglycosides). The increase in plasma half-life increases the risk of drug accumulation and adverse reactions. The selected antibacterial should have proven efficacy as well as safety in the elderly. It should be free from adverse drug-drug or drug-disease interactions. Antibacterials with once or twice daily dosage and one that is affordable would help in improving patient compliance. Newer macrolides such as azithromycin, 2nd or 3rd generation oral cephalosporins or newer fluoroquinolones (levofloxacin, moxifloxacin) are found to be effective and safe in the treatment of community acquired respiratory tract infections in the elderly. Cefpodoxime proxetil, Amoxycillin with or without clavulanic acid, fluoroquinolones such as levofloxacin etc are appropriate for the treatment of mild to moderate urinary tract infections in the elderly. Sulfonamides use in the elderly is associated with increased risk of severe skin reactions, bone marrow depression, renal impairment and folic acid deficiency. Similarly, elderly are at a greater risk of nephrotoxicity and ototoxicity due to aminoglycosides. Hence aminoglycosides and sulfonamides should be avoided in the elderly.

Management of bronchial asthma in elderly

Narayan Mishra

Senior Consultant Chest Physician,, M.K.C.G Medical College, Berhampur

As age advances there is a great deal of structural and functional changes inside the body. One third of the older people experience significant breathlessness which is commonly due to Asthma, COPD, Heart failure, Malignancy and Aspiration etc. Asthma is under recognized and under treated in older population. A good clinical history, diurnal variation in Peak Expiratory Flow Rate (PEFR) $\geq 20\%$ or $\geq 15\%$ in Forced Expiratory Volume in one second (FEV1), remission spontaneously or with the treatment supports the diagnosis of Asthma. Asthma should be differentiated from COPD to institute proper management. The management needs special attention in elderly. We can not strictly adhere to the guidelines meant for asthma management in adults, but the basic principle of the step care approach is to be followed. The perception of bronchoconstriction is very poor in elderly asthmatics, therefore even in mild disease, regular preventive treatment i.e. inhaled Corticosteroid (ICS) is the main stay of the treatment. If the symptoms persist, addition of long acting β_2 adrenoreceptor agonist (LABA) should be considered. Addition of LABA to ICS improves Asthma control and reduces ICS dose. It is quite evident that in elderly β_2 adrenoreceptor agonist (both long and short acting) are associated with increased cardiovascular mortality and morbidity and more so ever in short acting β_2 adrenoreceptor agonist. Elderly asthmatics receiving β_2 adrenoreceptor agonist needs regular assessment of cardiovascular system and monitoring of serum potassium concentration. In risky patients one can choose the alternative add-on-therapy like leukotrine receptor antagonist (LTRA). In elderly LTRA has fewer adverse effects and in some cases may be more effective and appropriate than LABA. The addition of anticholinergic drugs does not improve the control of Asthma but long acting anticholinergics may help in the prevention of disease process. In elderly, the delivery of medicines to lungs needs special attention. A good inhaler technique and proper device, improves delivery of medications to lungs, minimizes adverse effects and reduces the need for oral Corticosteroids. The peak inspiratory flow rate is much reduced in elderly, so direct use of MDI is less effective. It is better to use spacer where the drug deposition

in lungs will be much better and the oropharyngeal drug deposition will be minimal. Thus the local adverse effects such as oral candidiasis and dysphonia and systemic adverse effects such as osteoporosis can be minimized. Breath actuated devices (BAD) can be used by the persons with low inspiratory flow rate. For the patients with dementia, the breath actuated devices are probably better than the MDI and MDI + spacer. The influenza and polyvalent pneumococcal vaccine is recommended in individuals over 65 years of age. Their concurrent administration is considered safe and it reduces hospitalization, exacerbation and mortality. Depression which is common in elderly increases the mortality in Asthma. They are more likely to default from drug treatment and hence have brittle asthma. Anti depressant drugs are beneficial and it has also got direct immunomodulatory effect in Asthma control. A proper education and self management plan with written instructions in large type, including illustrations on how to use the inhaler devices may be helpful in elderly patient with a short term memory. An acute attack of Asthma in elderly is very unpredictable as the perception to acute broncho constriction is impaired. Older patients take on average three times as long to present to hospital, compared with younger patients. So early diagnosis of acute asthma is mandatory to save the life. The task is not that simple as it appears to be.

NSAID – An overview: with special reference to aged

R N Kar

Consultant Physician, Talcher

Currently 8% of older people in India are aged 60 years or more whose number is projected to go up to 2% by 2025. This ever growing ageing population poses a major challenge with socio-economic and health problems. Aged are more prone for cardiovascular and musculoskeletal problems. Large numbers of older people above 75 years of age have osteoarthritis. Non steroidal anti-inflammatory drugs (NSAIDs) are very commonly used in them for pain relief. Coxibs, which were thought to be, safe and wander drug, have proven to be a big culprit for serious cardiovascular adverse effects. Hence there is relevance of NSAIDs for aged. Globally 30 million people use NSAIDs and a large majority of them are older people. This has tempted pharmaceutical companies to go for designer NSAIDs. From Edward Stones Willobark (1763) to John Vane,

prostaglandins have traveled a long journey. Isolation of Cyclo-oxygenase 1 and 2 isoenzymes (COX 1 and 2), have helped the development of coxibs (COX inhibitors). When the coxib were marketed for the first time, little was known about their serious cardiovascular side effects. The global invasion was pioneered by Merks-Vioxx without knowing the fact that "prostanoid-thromboxanase," imbalance will create havoc, one after the other coxibs invaded world market. This was aided by suppression of the facts by MERK and direct to consumer advertisements. However, subsequent trials, like CLASS (2002), VIGOUR (2003), APPROVE (2004), TARGET (2003) and APC (2004) proved their side effects on cardiovascular system beyond doubt. MERK abruptly withdrew VIOXX in September 2004 and subsequently FDA put black box warning for most of the coxibs. Many out come studies failed to prove the clinical benefits of NSAIDS. On the contrary, all NSAID, have been proven to have deleterious effect on joint cavity and fracture healing. As no specific guidelines either from the World Health Organization or American College of Rheumatology exist it essential that patient's need for NSAID must be assessed before prescribing it. There should be great restrain in prescribing NSAIDs to older patients. If a must, short course and coxibs, may be advised. Drug molecule and the dosage needs to be individualized. Drugs which are free from end organ toxicity must be preferred. Acetaminophen, low dose oxycodon, tramadol and propoxyphen are some of the safe alternatives. In the absence of safe and potent molecules for pain management, the attention is now an alternative or complimentary therapy such as; regular exercise, acupuncture, high tech relaxation, chiropractice and hypnosis. Our search for an ideal molecule for pain relief is not yet successful. Hence the search will continue.

Concept of Aging in Ayurveda

Sushma Tiwari*, **Kishor Patwardhan***,
Sangeeta Gehlot*, **I S Gambhir****

*Faculty of Ayurveda, **Faculty of Medicine, Institute of Medical Sciences, Banaras Hindu University, Varanasi

Old age or '*Jara*' is considered to be a natural disease in Ayurveda. (Ca. Sha. 1/115). Physiological changes associated with aging are explained in Ayurvedic textbooks in detail. Basically, the cause of these changes is the imbalance in homeostatic mechanisms called '*Doshas*'. Rhythmic variations in the activities of these '*Doshas*' have been mentioned to be age-

related. '*Tridoshas*' in general represent neuro-immuno-endocrinal homeostatic mechanisms. In elderly population, the activity of '*Vata*' is exaggerated while that of '*Kapha*' is decreased. This is the reason why there is increased incidence of cognitive decline and immunosenescence in elderly population. Endocrine changes associated with aging result due to the problems in '*Pitta*' activity. Other age-related changes explained in Ayurveda include loss of perceptive abilities, skin changes, changes in locomotor activities, loss of sleep and problems with speech. These changes can probably be managed with the help of '*Rasayana*', the specialized branch of Ayurveda that deals exclusively with Geriatrics.

Can Yoga Prevent Ageing?

Chenchulakshmi Kolla

Professor, Department of Philosophy, Sri Venkateswar University, Tirupati

God is the only who entity who can remain young physically and psychologically. Ageing is physical, physiological and psychological. If we psychologically stagnate, then it can be said that ageing has begun. If the body movements are shaky with trepidation physical ageing has affected the person. Negative thoughts are also part of the ageing process. It is not adequate to motivate ourselves positively, when we are positive no psyching is necessary. Ageing can be healthier with an exercise regimen like yoga, which prevents accumulation of stress metabolites and always keeps the physiology supple. Medically yoga maintains the body parameters to a ripe old age which is anti-ageing. The energy level of the practitioner never declines even at the age of eighty and above. This paper lays emphasis on ageing and disease dictated by mind, postures for anti ageing and rejuvenation; correct thinking and control ageing; yoga that slows the aging process; anti-ageing or staying young benefits of yoga; and yoga for life.

Falls in the elderly

G S Shanthi

Dept of Geriatric Medicine, Government General Hospital, Chennai

Fall is defined as sudden unintentional change in position, causing a person to land on the ground or any lower level from the standing position. Recurrent falls is said to occur if a person falls down more than

twice in a period of six months. This is considered as one of the major problems in the elderly constituting a "geriatric giant". This is also marker of poor physical and cognitive status. Falls are not part of natural aging process. They are due to underlying physical illnesses, medications and environmental hazards, often in interaction. Falling is a symptom, not a diagnosis and hence a complete evaluation is necessary to ascertain the cause for fall. Various studies indicate that the episodes of fall increase with advancing age. It is one of the leading causes for mortality in older people due to its complications. The mortality includes serious injuries and fractures, restricted mobility leading to loss of independence and functional decline. Apart from these, an elderly person develops a psychological fear of falling (post fall syndrome) and further restricts his activities. Falls occur in approximately 30% of community residing older adults and in 50% of the institutional elderly. Two thirds of those who already had one fall, have a recurrence in the following year. Serious injuries including fractures and head injuries occur in 10% of falls and less serious injuries like sprain, laceration (open wound), and hematomas occur in almost 50% of the fallers. The causes for falls in elderly may be multi-factorial. It can be broadly classified into: 1) intrinsic factors - due to various diseases and conditions that impair balance and 2) extrinsic factors – environmental, slippery floor, low lying objects on the floor, loose carpets, poor lighting etc. The physical examination by the doctor includes assessment of vision, gait and balance and lower limb function. Detailed neurological examination including cognition and cardio vascular assessment is performed to diagnose the cause. It must be remembered that the cause of falls is often multi-factorial. Certain functional tests of gait and balance are performed to detect and quantify gait abnormalities and plan therapeutic interventions. Examples of these test include the "Get up and Go" test, gait speed (timed 8-foot walk) and performance oriented balance and mobility test. A multi-faceted intervention may be adopted for fall prevention. This includes: fall related education, environmental assessment and modification, modification of medication regimen and exercise program to improve strength, balance and endurance.

Weight loss in elderly

Ambika P Mohanty

Senior Adviser (Medicine), Command Hospital, Pune

Although it is important to recognize that periods of substantially positive or negative energy balance and body weight function occur as a normal part of life, weight loss greater than 5% over six months should be investigated. The loss of body weight in life is associated with premature death and increased risk of disability, even after excluding elderly subjects who have a pre-existing disease. The major causes of weight loss in the elderly fall into 4 categories; social, psychiatric, due to medical conditions and age-related. The causes of unintentional weight loss have been categorized in several ways. The most basic physiological approach divides the causes into three categories; decreased food intake, accelerated metabolism, and increased loss of calories. In a more descriptive breakdown, the major causes of weight loss in the elderly are social, psychiatric, medical, and age-related. The clinical evaluation should include a careful history and physical examination. If these fail to provide clues to weight loss, simple diagnostic tests are indicated. A period of watchful waiting is preferable to blind pursuit of additional diagnostic testing that may yield few useful data, if the results of these initial tests are normal. The first step in managing patients with weight loss is to identify and treat any specific causative or contributing conditions and to provide nutritional support when indicated. The side effects of drugs are a major cause of weight loss in older people. Certain drugs cause weight loss by decreasing appetite (digoxin); by increasing metabolism (excess thyroxine replacement); or by a combination of anorexia and increased metabolism (theophylline). Therapeutic diets have also been associated with development of protein-energy malnutrition in older people. Non-anorexigenic drugs have found an established place in the management of protein energy malnutrition. Early attention to nutrition and prevention of weight loss during periods of acute stress, particularly during hospitalization may be extremely important, as efforts directed at re-feeding are often unsuccessful; weight loss in elderly is clearly a prevalent, complex problem. It deserves the serious attention of the attending physician.

Critical care pulmonology in the elderly

Samir Sahu

Kalinga Hospital, Bhubaneswar

Age related decline in the pulmonary function occurs. The decrement in flow rate & lung volume tend to accelerate with age. Rigidity of chest wall with ageing increase work of breathing. Premature closing of terminal airway increase V/Q mismatch leading to decrease in arterial PO₂ & increase in alveolar arterial oxygen difference. Arterial PO₂ decrease in supine position leading to postoperative hypoxia for several days. Ventilatory response to hypoxia & hypercapnia is reduced by half. Reduction in effectiveness of cough & mucociliary clearance & decline in cellular & humoral immunity predispose them to pulmonary infections. Diminished gag reflex, discoordination during swallowing, prolonged periods in supine position increase risk of aspiration. The common pulmonary diseases like COPD are more common in the elderly. Requirement of ventilation and cost of ventilated COPD patients are more. Pneumonia is 60 times more common in the elderly. It leads to more complications and ICU admissions. The morbidity & mortality in elderly patients admitted to ICU are higher. Severity of illness impaired level of consciousness and infection are important factors associated with high risk of death. End of life issues will also be discussed.

Breathlessness in older people

A K Singh

Varanasi

Breathlessness is among one of the commonest disabilities found in older people and its incidence increases with increasing age. Usually older people complain of acute dyspnea but they hesitate in complaining of chronic dyspnea as they wrongly accept it as a consequence of ageing. Age related anatomical and physiological changes in respiratory system predisposes to breathlessness in elderly. Age related changes in physiology are rarely of clinical significance when the system is at rest but may become important when it is stressed as in exercise, disease or drug administration. In clinical geriatric medicine the major causes of morbidity and mortality are pathological changes rather than decaying physiology. In old age respiratory reserve is decreased and work of breathing is increased.

The ventilatory response to exercise is also increased. PEF_R, FEV₁ and FVC all decreased with the age though rate is variable. Alveolar surface area is reduced, physiological dead space is increased and a mismatch between ventilation and perfusion is observed in elderly. Resting cardiac output progressively decreased with increasing age. Due to reduced cardiac reserve, older people may be very easily tipped into cardiac failure by trivial processes like anemia, sepsis, moderate HT, small MI etc. Psychogenic factors are important both as a cause of dyspnea and in regulating body response to it. Indian data regarding breathlessness in elderly is lacking. Hence we performed this small study. In our study of rural elderly patients of breathlessness the commonest cause was cardiac failure followed by bronchial asthma, chronic bronchitis, cor-pulmonale, pulmonary tuberculosis and pneumonia. If we add congestive cardiac failure and cor-pulmonale together then they constituted more than half of the cases. This study shows that older people are more prone to develop cardiac failure. At this moment we do not know the reason behind it. If it is the same which render our older people more vulnerable to IHD or different? Large studies are needed to get the answer.

Blistering diseases in the elderly: diagnosis and treatment

Prasenjeet Mohanty

Department of Dermatology, SCB Medical College, Cuttack

Blistering diseases in the elderly are a rare group of diseases that can be immune-mediated, drug-induced, or secondary to other systemic diseases. The pathogenesis of the more severe and serious blistering disorders is autoimmune. These autoimmune blistering diseases primarily affect mucosal and cutaneous tissues. The mucosal surfaces most commonly involved include the oral, nasal, conjunctival, pharyngeal, esophageal, anal, and genitourinary mucosa. In addition to the problems that result from the symptoms of the involved surfaces, some of these diseases can result in irreversible sequelae if they are not diagnosed early and proper treatment is not instituted. In some patients, these diseases can be fatal. The diagnosis and treatment are extremely important, especially with respect to the clinical course of the diseases and their long-term prognosis. In many of the autoimmune blistering disorders, the target antigens have been identified using recently available sophisticated molecular

techniques. A variety of both local and systemic therapies have become available that can be used to treat these diseases.

Self-monitoring of senior citizens towards better mental health

B K Das

Consultant Psychologist, Bhubaneswar

In present days we come across anxious, unhappy, cynical, depressed, disillusioned and so, bewildered senior citizens who miss the realization of the contentment as the fruit of their life-long struggle. The paper traces the stages of developmental changes in the advanced age as natural as the youth. When our senior citizens can not escape from the truth, they need to adapt a sort of rational and positive attitude towards life. In the process of differentiating positive attitude from negative attitudes, the paper also identifies a number of maladaptive attributes such as cynicism, depression, helplessness, rigidity, mistrust and pessimism. It is asserted that the physical and mental changes associated with the advance of age are to be accepted, viewed and dealt with in an adaptive perspective. The acceptance of the naturally occurring changes would be instrumental in combating cynicism and depression. Furthermore, a sense of control over the environment is also helpful. It is posited that a lot of self monitoring happens to be the panacea. The self-monitoring needs to be geared towards the developments of self-efficacy, optimism and a sense of controllability. In summary, when senior citizens reconcile to themselves to change their concept, perceptions, thinking and attitude for their own good and come forward to evolve better and sometimes newer healthy coping strategies, they will be effective to monitor their own self towards their better mental health. Even if their problems can not be permanently solved physically and socially, they will be at least solved at the emotional and psychological levels. Hence, the mechanism of self-monitoring is likely to promote improved mental health in senior citizens giving them back a life of worth and fulfillment.

Parkinson's disease-recent concepts in management

Maya Gantayet

Consultant Neurologist, Cuttack

The increase in life span has brought in an increase in the incidence of Parkinson's disease and

clinically similar Parkinson plus syndromes in ageing population all over the world. The similarities between the two are striking clinically. However, the response to medication is different in the two disorders. Therefore, differentiating the two are of utmost importance. The clinical presentation, its differentiating features from other similar illness, and the recent concept in managing Parkinson's disease shall be discussed.

Dementia and blood pressure: Geriatric Clinic experience

D N Moharana, S Moharana, L A K Sai

Geriatric Clinic, SCB Medical College, Cuttack

Hypertension has shown to carry an increased risk not only for stroke but also for cognitive impairment and dementia. Effective anti hypertensive treatment reverses the risk and reduces the severity of cognitive impairment. All types of dementias, vascular, degenerative and cerebrovascular diseases share similar risk factors such as hypertension, abnormal lipid profile, obesity etc. However elevated blood pressure in mid life is associated an increased risk of dementia 15 to 20 years later. Several hypotheses have been proposed to explain the relationship between dementia and low blood pressure. Episodes of hypotension related to aging, drugs or cardiac failure may lead to hypo perfusion and hypoxia-ischemia, leading to loss of myelin in the white matter. Hypertension appears to be the strongest risk factors for all types of vascular dementia. Alzheimer's disease, a primary degenerative dementia and cerebrovascular diseases specifically stroke syndromes between the ages of 79-85 years had mean blood pressure levels higher than those without dementia. However, during follow up, blood pressure levels decreased in demented and non demented patients, but the decrease was larger in the former group. We followed up 178 patient 98 males and 80 females in the age range of 65-74 years having a long history of hypertension with some anti hypertensive treatment. The period of follow-up was for 2 years. Timely blood pressure measurement and modification in the anti-hypertensive drug profile were made depending on the need. The incidence of Isolated Systolic Hypertension was to the tune of 60-70%. The incidence of cognitive decline and dementia was 16% much higher than the normotensive controls(3%). As regards the anti hypertensive drug profile the group of cases with isolated systolic hypertension were put on calcium channel blockers, diuretics or both. The group

with systolic and diastolic hypertension were put on Beta blockers and/or ACE-inhibitors. It was observed that those with diuretic or calcium channel blocker therapy did well in preventing strokes without unwanted effect on quality of life, including cognitive, emotional state, physical function or leisure activities than those receiving Beta blockers and/or ACE-inhibitors.

Stroke in elderly: Practical aspects of management

A K Mohapatro

Consultant Neurologist, Kalinga Hospital, Bhubaneswar

Stroke is the second leading cause of death and disability worldwide. In developing countries especially in India the problem is enormous considering the facts that, public awareness about stroke is abysmally lacking, life span is increasing, absence of motivated caretakers at home especially in situations of nuclear family model, absence of health facilities at back and call, poverty, delay in transportation to even primary health centers/specialized centers, lack of trained health personnel, adverse environmental situations and unusual causes of stroke. Amyloid angiopathies, anticoagulant induced bleeds, intra-tumoral bleeds and hemorrhagic transformation of various infarcts could be special considerations as a cause of cerebral hemorrhage. Not to forget is chronic subdural hematoma as a cause of recent neurological deterioration with paucity of paralytic findings and an overt higher cognitive decline. Amongst ischaemic strokes, while the elderly could have macrovessel occlusion as other adults, special concern should be applied to a state chronic arteriosclerotic encephalopathy with neuroimaging finding of white matter lesions and border zone lesions. Lacunar infarctions may occur at tandem and though sometimes they can give rise to dramatic symptoms and signs, they could also be asymptomatic only to present at a later time with vascular dementia. It can also co-exist with Alzheimer's dementia making management problematic. Presentation may be misleading and valuable time is usually lost before diagnosis and initiation of treatment. Co morbidity is usually evident and this sometimes overshadows presentation of stroke symptomatology. The usual presentation of paralysis may be absent punctuated by a slow encephalopathic form, movement disorder, personality changes, language dysfunction or raised intracranial pressure. Unlike the straightforward case of stroke in young or adult, the elderly may pose

management obstacles because of multiplicity of factors. Evidence based management and practical situations encountered will be discussed. Public awareness about stroke, a benevolent and caring environment, prompt reporting to a health unit, individually tailor made prompt treatment and finally a proactive rehabilitation of the elderly with stroke should be the aim.

Cancer in the elderly

K Panda

Panda Medical Center and Cancer Hospital, Cuttack

Prevalence of malignancy rises with age. It is calculated that management of cancer in elderly will occupy a much greater proportion of health expenditure in the future. It is clear that a man aged 65 years has 50 times the probability of developing cancer in next 5 years in contrast to a man aged 25 years. In western society more than 50% of cancers occur in 15% of community those over 65 years of age. In India, grey population has doubled in last 25 years, so also number of cancer patients. There are many causes for higher incidence-longer exposure to carcinogen, gene changes, less resistance etc. The associated illness and co-morbidity are the major problems in management of cancer in elderly. The higher incidence of common cancers like prostate, breast, lungs, multiple myeloma, CLL etc. is well established. Proper screening should be planned accordingly for early detection and adequate management. The age distribution of different cancers in Indian context with problems in management will be discussed.

Surgical management of the degenerative joints in the elderly

S K Jena, N Jajodia

Department of Orthopedics, Ashwini Hospital, Cuttack

Degenerative joint diseases or osteoarthritis is a disabling condition limiting the social and professional life in the elderly. Failure of medical management indicated by the lack of clinical response to drugs and physiotherapy, progressive increase in the severity of the symptoms and deformities call for surgical management. Limited invasive techniques like deformities call for surgical management aspirations, arthroscopic debridement are indicated in the earlier stages of the disease. In the next stage, joint-sparing procedures

like realignment osteotomies are effective in certain cases, but in advanced stages of the disease joint replacement/joint resurfacing is the final answer. The procedure has evolved to the present state in the course of 4 decades. Now, the procedure of total joint replacement with its various modifications, provide predictable results with high degree of accuracy and patient satisfaction.

Urological problems of old age

B Rautray

Consultant Urologist, Kalinga Hospital, Bhubaneswar

Geriatric Urology is a specialized area of adult Urology that requires evaluation and management of urological problems in elderly patients. In particular it is focused on the care of frail and elderly individual with multiple medical and surgical illness. Management of geriatric patient requires highly specialized and sympathetic handling and to-day it has become a major socio-economic burden on the exchequer. In spite of increasing the age limit to 65 years for old age, to-day they form about 15% of population and by 2020 it will increase to 30%. United States alone spends 26 billion Dollar on old age care which is more than the combined budget for cardiac surgery and dialysis together. In this brief talk I will try to outline the geriatric urological problems, its evaluation and management.

Challenges in geriatric otolaryngology

G C Sahoo

Professor and Head, Department of ENT, RM Medical College, Annamalai University.

Unlike geriatric medicine in general, gerontology in otolaryngology in particular has not got sufficient attention and awareness in spite of the multitude problems due to various degenerative changes in the head and neck region like sensorineural deafness, tinnitus, Vertigo, Olfactory disorders. Epistaxis, presbyesophagus head and neck malignancy, sennile rhinorrhea, cosmetic problems. As per recent study most of the fatal domestic accidents in the old age are due to vestibular disequilibrium and more than 70% of cases in persons above 75 years of age have inability to smell gas, which further increases these incidences of domestic fatal accidents. Not only the affection of special sense organs, which reduces the quality of life in old age but also the life span further get reduced

due to increased incidence of head and neck malignancy in old age. The cosmetic problems of an ageing face also poses a formidable challenge due to the ever-increasing appetite for an ever-youthful appearance in the modern society.

Nutrition and bone health: implications for advancing years

Seema Puri

Reader and Head, Department of Nutrition, Institute of Home Economics, Delhi University

Nutrition is one of the most important modifiable factors in the development and maintenance of bone mass and quality. The nutrients of most significance to bone health are protein, calcium and phosphorus, important constituents of the bone matrix. Dietary components, such as magnesium, zinc, copper, iron, fluoride, vitamins D, A, C, and K are required for normal bone metabolism, while other food constituents e.g. caffeine, alcohol, and phytoestrogens may also impact bone health. The fact that many nutrients are co-dependent and simultaneously interact with genetic and environmental factors should not be neglected. There is a consistent positive association between body weight and bone mineral density (BMD). Moderate weight loss of 10% results in 1% to 2% bone loss. More severe weight loss is a risk factor for osteoporosis. The effects of dietary protein on bone health are paradoxical. Both low and high protein diets may be detrimental to bone health and moderate levels are probably optimal for bone health. Dietary calcium has a positive effect on BMD. The gain in bone density throughout the first several decades translates to lower fracture risk later in life. During the later years, calcium with vitamin D, prevents negative calcium balance and reduces bone loss. Exposure to sunlight ensures an adequate supply of vitamin D. However with changing lifestyles and inadequate sun exposure, vitamin D insufficiency, with definite implications on bone health, is emerging as a major nutritional concern. Other minerals are also known to impact bone health. Animal data confirm that the combination of high phosphorus and low calcium diets is deleterious to bone mass. Magnesium deficiency may be a risk factor for osteoporosis. Iron may play an important role in bone formation; zinc in connective tissue metabolism, and copper influences collagen maturation. High sodium intakes coupled with low calcium intakes can contribute

to osteoporosis. Vitamin A is important in the bone remodeling process and too high or too low levels of vitamin A are detrimental to bone. Vitamin K supplementation improves bone turnover profile. In vitamin C deficiency, scurvy, there is a weakening of the collagenous structure in bone. Vitamin C along with other antioxidant vitamins may serve to protect the skeleton from oxidative stress from smoking. When discussing whole foods containing multiple nutrients the situation becomes more complex. For example, acid ash producing diets (meat based) over a period of time might contribute to depletion of calcium and increased risk of osteoporosis, as opposed to fruits and vegetables with an alkaline and dairy products with a neutral ash. However, dietary fibre, abundant in fruits and vegetables has been associated with a decrease in calcium absorption and increased calcium excretion. Presence of oxalates and phytates in foods such as whole cereals also has an adverse effect on calcium absorption. Phytochemicals such as isoflavones, have been studied in postmenopausal osteoporosis and have a positive effect in maintaining BMD and reducing fractures. The deleterious effect of caffeine becomes most pronounced when dietary calcium is inadequate. More carefully designed and controlled studies are needed to focus on relating specific food groups with bone health and fracture risk. Such evidence would prove valuable in planning targeted nutritional interventions and advice.

Malnutrition in elderly in eastern part of India

N Sarkar, S Maitra, P S Karmkar, A K Majumdar

Kolkata

Geriatric population is a rapidly growing segment all over the world but unfortunately they are the neglected portion of the society. This fact prompted to evaluate nutritional status of geriatric persons and the prevalence of malnutrition among them. The study was conducted in Institute of Postgraduate Medical Education & Research, Kolkata. Persons aged more than 60 years in outdoor & indoor of this institute were randomly included and subjected to through history and physical examination including estimation of BMI, triceps skin fold thickness, waist: hip ratio, mid arm circumference. All were investigated with blood for total and differential count, ESR, serum albumin, sugar, urea, creatinine, cholesterol and urine for RE/ME. Persons having significant proteinuria, chronic liver

disease or receiving statins were excluded from the study. The cohort consisted of 76 patients of which 56 were males (74%) and 20 were females (26%). The age group ranged from 60-84 years (mean 67 years). BMI was within normal range (20-24.9) in 33.9% of males and 40% of females, falling to under nutrition range varying from mild (BMI 18-20) to severe (BMI less than 16) in 55.1% of males and 30% of females, more than normal (BMI more than 25) in 10.6% in males but 30% in females. Waist: hip ratio met the criteria of central obesity (ratio in male more than 1 and in females more than 0.8) in 16% of male (9 out of 50 persons) and 85% of females (17 out of 20 persons). In our study, more than half of the male persons had under nutrition while in female it was almost one third. In contrast over nutrition as judged by waist: hip ratio were found to be more than five times in females than in males. This remarkable gender difference could be related to physical activity and financial status.

Special problems in management of diabetes in the elderly

P K Mishra

Professor, Department of Endocrinology, SCB Medical College, Cuttack

About 50% of people with diabetes are aged 60 years and more in the developed world and the bulk is on rise in the developing geographical regions. Many areas, including the importance and control of risk factors and glycemia in decreasing the complications of diabetes in the elderly are not clear. Due to lack of guidelines for diabetes management in the elderly, recommendations are extrapolated from studies of other age group. The goals of diabetes management for elder adults are not different from those for other patients. Like younger people with diabetes, macrovascular complications are the major causes of morbidity and mortality related to diabetes. Co-occurrence of other associated risk factors are frequent and appropriate management has favorable impact on morbidity and mortality in both young and elderly with diabetes. The older population with diabetes is very heterogeneous both with respect to their diabetes and general health status. Special evaluation and treatment goals not be devised for the frail elderly with multiple co-morbidities and disabilities is a significantly impaired physiologic response. The management of elderly with diabetes is to be individualized according to health status and preferences. Those with several co-morbid conditions and associated with "geriatric syndromes"

and/or problems need a comprehensive geriatric evaluation. Treatment modalities in the elderly with diabetes covering different areas like management of hyperglycemia and atherosclerotic risks and complications will be presented. Basic differences in planning nutrition, exercise, oral medications, insulin and combinations in these elderly subjects with diabetes will be discussed.

Studies on primary hypothyroidism in the elderly

Tapas Das

Professor, Department of Medicine, SSKM Hospital & IPGME&R, Kolkata

This work was undertaken to study the clinical and laboratory profile of elderly patients with primary hypothyroidism and to compare it with a younger group. The patients were divided into two groups: Group I (aged > 60 years) and Group II (aged 20-60 years). Patients with sick-euthyroid syndrome were excluded from the study. All patients were subjected to thorough clinical examination. Laboratory investigations included estimation of Serum Thyroid Stimulating Hormone (TSH), Serum Free Thyroxine (FT₄), Serum Triiodothyronine (T₃) and Anti-TPO antibody. Ultrasonogram (USG) and Fine Needle Aspiration Cytology (FNAC) of thyroid gland were done in some cases. Mean age was 68.6 ± 6.3 years in elderly group and 39.3 ± 9 years in young group with a female preponderance in both groups. The mean duration of illness was greater in elderly (10.5 ± 6.1 months) as compared to young (6.9 ± 4.1 months). Weight gain was significantly higher in the young while weight loss was common in the elderly. Mean BMI was also higher in the young. Bilateral pitting pedal edema and hyponatremia leading to disorientation were common in the elderly. Most of the classical clinical features of hypothyroidism like cold intolerance, paraesthesia, bradycardia, goiter and delayed ankle jerk were significantly less in the elderly. However, cognitive dysfunction was very common in the elderly, particularly those with overt hypothyroidism. Sub-clinical elderly hypothyroid patients had significant depression. The mean serum T₃ was significantly higher in the young; however, the mean serum FT₄, TSH and anti-TPO antibody titre were similar in the two groups. The younger patients had significantly higher mean serum total cholesterol, serum triglyceride and serum low-density-lipoprotein cholesterol levels but mean serum high-density-lipoprotein cholesterol level was higher in the elderly. Autoimmune thyroiditis was the commonest

cause of primary hypothyroidism and seen in 68% of elderly and 54% of young. Other important causes were anti-thyroid drugs and post-thyroidectomy. Sub-clinical hypothyroidism was seen more commonly in the elderly (28%) than in the young (10%). Elderly hypothyroid patients often present with paucity of clinical features which mimic the manifestations of normal ageing process. Hence one has to be vigilant not to miss hypothyroidism in the elderly.

Problems of elderly in rural areas

Rama Chandra Rout

General Physician and Geriatrician, Gopalpur, Banki, Cuttack

In rural India older people prefer to work as long as they can. Their problems are broadly of two categories: 1) their own problems related to themselves: all maladies related to ill health, ill-stay, ill-adjustment and psycho-social problems and 2) problems due to environment and attitude of family, community, society and agencies of the government. Most older people in rural areas enjoy good health if one excludes the inevitable age-related functional decline. However with increasing age certain problems become frequent which include: immobility, risk of fall, intellectual failure and incontinence of urine. Other common problems in rural elderly are blindness due to cataract, mental health problems including depression, malnutrition, inability to carry out activities of daily living. Social disabilities in rural elderly are: lack of space for shelter, non-availability of nutritious food, lack of emotional and financial security etc. There is need for strengthening of health facilities to screen and treat conditions such as: cataract, hypertension, IHD, diabetes, anemia, tuberculosis etc. There is also a need for promotion of intergenerational bonding in community while the government may help in providing financial security and health security.

Urinary tract infection(UTI) in elderly-a community based study

Ashutosh K Sinha, Shampa Anupoorva, Ravikant, I S Gambhir

Department of Medicine and Department of Microbiology, Institute of Medical Sciences, Banaras Hindu University, Varanasi

UTI is a common problem in elderly with significant morbidity and mortality risks. Present study was undertaken to know the prevalence and profile of urinary

tract infection in elderly in community. Total 450 subjects, 150 from institutions, urban and rural communities were included in the study. The mean age of the subjects was 67+_6.55 and 67+_6.05 amongst males and females respectively. Overall male to female ratio was 1.16:1. Maximum number of elderly in study groups were in the age range of 65-75 years(228,50.6%). The prevalence of bacteriuria was 20.66% among institutionalized elderly,12% among urban and 7.3% among rural elderly people. There was significant relation between bacteriuria, place of residence and increasing age but not with sex. There was a high prevalence of lower urinary tract symptoms (56%). Irritative symptoms were present in both sexes without any significant difference while obstructive symptoms were present predominantly in males. Stress incontinence was predominantly present in females whereas urge and overflow incontinence was predominant in males. Bacteriuria without symptoms was quite prevalent in all groups and both sexes. There was no significant co-relation between symptoms with bacteriuria and pyuria. There was poor co-relation between significant pyuria and bacteriuria, rather the absence of pyuria was associated with high negative predictive value (95%) for the absence of bacteriuria. NIDDM was the most common co-existing disease associated with significant pyuria ($p<0.05$) and bacteriuria ($p<0.001$).NIDDM predisposed to bacteriuria in both sexes. Study of UTI in elderly in the community revealed that prevalence of UTI differs with place of residence and increases with age.

Seizure in elderly: one year hospital based observation

Smita Kayal , Neelakshi Mahanta, Ashok Kayal, B P Chakravarty

Dept. of Medicine, Guwahati Medical College, Guwahati

Old age is the most common time in life to develop epilepsy. The historically higher incidence of seizures in children has changed; the elderly now have a higher incidence than any age group, 2-3 times of that found in children. Seizures in the elderly are both underdiagnosed and overdiagnosed. Diversity of etiologies and atypical presentation make recognition of seizure difficult. We have studied 63 patients over 60 years old with either new-onset seizure or diagnosed seizure with onset after age sixty. The cases were selected from the geriatric cases admitted to the Department of Medicine or Dept. of Neurology or attending the

Geriatric/ Medicine/ Neurology OPDs or Medicine Emergency Dept. at the Guwahati Medical College and Hospital, Guwahati during the period from July 2005 to July 2006. The clinical characteristics, types of seizures, associated co-morbidities and neurological deficits have been studied. Clinical, biochemical, radiological and electrophysiological features have been correlated to find out the etiology as far as practicable. The most common single cause of seizure was infarction or hemorrhage (36.5%). Seizures were partial with or without secondary generalization in just over half the cases (50.79%). The other common etiologies observed were CNS infections (15.8%), metabolic disturbances (12.6%), tumors (9.5%), subdural hematoma (6.3%) and no cause could be ascertained in 9.5 % cases. 76.1 % of cases presented with the first ever seizure. Epilepsy is common in later life. Seizures in the elderly occur mainly with acute or remote symptomatic neurologic insults and are associated with a significant morbidity and mortality; and they need to be evaluated and treated in the context of features unique to this age group.

Assessment of nutritional status and co-morbid condition in community dwelling elderly

Mahesh Gupta, Suneet Kumar, Sanjeev Baweja, Harish Agarwal, Sushil Kumar, K R Haldia, Arvind Mathur

Department of Medicine, Dr S N Medical College, Jodhpur

Nutrition plays a significant modulating role in aging process and is an important component in the health of elderly. Nutritional status contributes to the development and progression of chronic diseases and outcome of a co-morbid condition in elderly. This was cross sectional study conducted at Jodhpur and Pali districts of Western Rajasthan including 1000 elderly aged 60 years and above from rural (56.2%) and urban population (43.8%). Nutritional status was assessed by MNA scale and its association with co-morbid conditions like IHD, diabetes, hypertension, COPD and tuberculosis was studied. IHD prevalence was higher in well nourished elderly (27.1%) than malnourished (18.3%) and at risk of malnutrition elderly (21.6%).Diabetes mellitus had higher prevalence in well nourished elderly (17.6%) than malnourished (2.2%) and at risk of malnutrition elderly (8.5%). Prevalence of hypertension was more in those at risk of malnutrition (58.0%), well nourished elderly (49.3%) than in

malnourished (21.1%). Elderly with COPD compared to non COPD had significantly higher malnutrition (9.4% v/s 6.9%) and risk of malnutrition (66.2% v/s 49%). Among elderly tuberculosis patients significantly higher prevalence of malnutrition (14.8% v/s 6.8%), at risk of malnutrition (62.9% v/s 49.9%) was observed. Prevalence of ischemic heart disease and diabetes mellitus and hypertension was found to be more in urban elderly than rural and among those who were well-nourished. COPD and tuberculosis were more prevalent in rural elderly than urban and prevalence of malnutrition or at risk of malnutrition was more among those who were suffering from either of these. Co-morbid conditions and the nutritional status modify each other. Ensuring adequate nutrient intake can affect both quality of life and morbidity due to the chronic diseases.

Captive elderly infirmity- the remediable part

Anand Gopal, I S Gambhir

Department of Medicine, Institute of Medical Sciences, Banaras Hindu University, Varanasi

There are a number of elderly people living as captives in our prisons due to life imprisonment with most of there infirmity attributed to old age. Here we present the comprehensive assessment of 40 such elderly captives (mean ageHⁿ70yrs) living in Varanasi Central Jail. Discussing the remediable conditions, most of these people are malnourished (assessed by MNA) and depressed (assessed by GDS15). Above 30% of these people are hypertensive, most of them not adequately controlled. Most of these people suffer from problems and infections associated with personal and food hygiene. Taking above mentioned facts into consideration, we propose to have a large scale study to assess the geriatric health status in various prisons.

Effect of comorbid conditions on lung functions in elderly

Suneet Kumar, Mahesh Gupta, Harish Agarwal, K.R. Haldia, Arvind Mathur

Department of Medicine, Dr S N Medical College, Jodhpur

Aging is associated with significant changes in lung parenchyma and functions. Co-morbid conditions aggravate the changes in the pulmonary functions. The present study was undertaken to find out influence of co-morbid conditions on lung functions in elderly population of rural desert. The present study was a

cross-sectional community based study in a rural population from desert aged 60 years and above. Using *structured questionnaire, socio-demographic determinants (age, sex, place, marital status, occupation, monthly income), personal habits (i.e. smoking, alcohol, gutkha, opium), and history of co-morbid diseases were recorded. Anthropometric measurements, clinical examination, routine blood and urine investigations along with spirometry were performed.* Out of 300 elderly subjects we studied, 29.3% were smokers, 12.3% were diabetic, 18.3% had Coronary Heart Disease and 54% were hypertensive. Smoking, Hypertension and Diabetes Mellitus had negative relation with lung function. However our study did not show the same with Coronary Heart Disease. There is a decline in pulmonary function with increasing age. This physiological phenomenon is aggravated by co-morbid conditions.

Microbiological profile of Urinary tract infection(UTI) in elderly

Peeyush Kumar Roy, Shampa Anupoorva, Ravikant, I.S.Gambhir

Department of Medicine and Department of Microbiology, Institute of Medical Sciences, Banaras Hindu University, Varanasi

UTI is a common problem in elderly with significant morbidity and mortality risks. Present study was undertaken to know the microbiology and sensitivity pattern of urinary tract infection in elderly in community. Total 450 subjects, 150 from long stay institutions, urban and rural communities were included in the study. The mean age of the subjects was 67+_{6.55} and 67+_{6.05} amongst males and females respectively. Overall male to female ratio was 1.16:1. Maximum number of elderly in study groups were in the age range of 65-75 years (228,50.6%). The prevalence of bacteriuria was 20.66% among institutionalized elderly, 12% among urban and 7.3% among rural elderly people. The most common organism isolated was E.coli (71%) followed by Klebsiella (11.6%), Proteus (6.6%). There was a high degree of resistance to the antibiotics like ceftriaxone, ampicillin and cephalaxine while nitrofurantoin, amikacin, gentamicin, cefoperazone+sulbactam had good sensitivity pattern. Study of UTI in elderly in the community revealed that E.coli is the most common organism and there is rising resistance to common antibiotics like ampicillin and cephalaxine.
