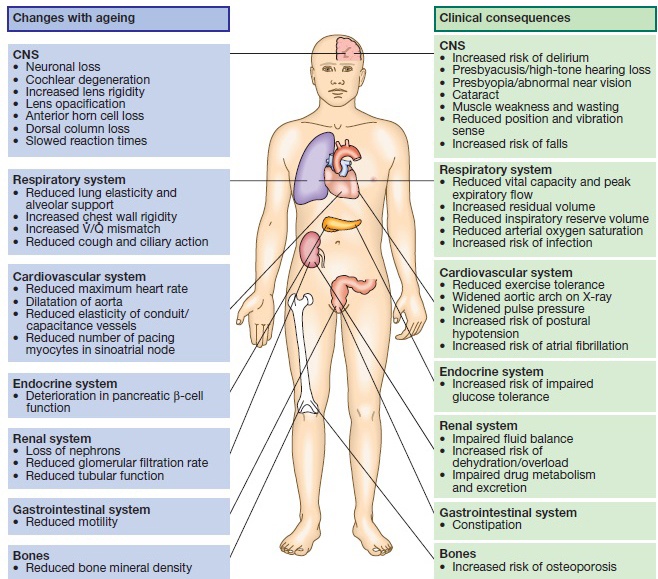
**Geriatric medicine**

Geriatric medicine is concerned particularly with frail older people, in whom physiological capacity is so reduced hat they are incapacitated by even minor illness. They frequently have multiple comorbidities, and acute illness may present in non-specific ways, such as confusion, falls or loss of mobility and day-to-day functioning. These patients are prone to adverse drug reactions, partly because of poly pharmacy and partly because of age-related changes in responses to drugs and their elimination.

Ageing can be defined as a progressive accumulation through life of molecular defects that build up within tissues and cells. Eventually, despite multiple repair and maintenance mechanisms, these result in age related functional impairment of tissues and organs.

genetic factors only account for around 25% of variance in human lifespan; nutritional and environmental factors determine the rest. A major contribution to random molecular damage is made by reactive oxygen species produced during the metabolism of oxygen to produce cellular energy. These cause oxidative damage at a number of sites:

• *Nuclear chromosomal DNA*, causing mutations and deletions which ultimately lead to aberrant gene function and potential for malignancy.

• *Telomeres*, which are the protective end regions of chromosomes which shorten with each cell division important role, again in part by driving the production of reactive oxygen species. 

***Approach to presenting problems in old age***

The approach to most presenting problems in old age can be summarized as follows:

• *Obtain a collateral history.* Find out the patient’s usual status (e.g. mobility, cognitive state) from a relative or carer. Call these people by phone if they are not present.

• *Check all medication.* Have there been any recent changes?

• *Search for and treat any acute illness.* =. Full blood count

• Urea and electrolytes, liver function tests, calcium and glucose

• Chest X-ray

• Electrocardiogram

• C-reactive protein: useful marker for occult infection or inflammatory disease

• Blood cultures if pyrexial

• *Identify and reverse predisposing risk factors.* These depend on the presenting problem.

**Presenting problem in GM**

1-Late presentation

Many people (of all ages) accept ill health as a consequence of ageing and may tolerate symptoms for lengthy periods before seeking medical advice. Comorbidities may also contribute to late presentation; in a patientwhose mobility is limited by stroke, angina may only present when coronary artery disease is advanced, as the patient has been unable to exercise sufficiently to cause symptoms at an earlier stage.

***2-Atypical presentation***

Infection may present with delirium and without clinical pointers to the organ system affected. Stroke may present with falls rather than symptoms of focal weakness.

Myocardial infarction may present as weakness and fatigue, without the chest pain or dyspnoea. The reasons for these atypical presentations are not always

easy to establish. Perception of pain is altered in old age, which may explain why myocardial infarction presents in other ways. The pyretic response is blunted in old age so that infection may not be obvious at first. Cognitive impairment may limit the patient’s ability to give a

history of classical symptoms.

***Multiple pathology***

Presentations in older patients have a more diverse differential diagnosis because multiple pathology is so common. There are frequently a number of causes for any single problem, and adverse effects from medication often contribute. A patient may fall because

of osteoarthritis of the knees, postural hypotension due to diuretic therapy for hypertension, and poor vision due to cataracts. All these factors have to be addressed to prevent further falls, and this principle holds true for most of the common presenting problems in old age.

**Delirium**

Delirium is a syndrome of transient, reversible cognitive dysfunction. It is very common, affecting up to 30% of older hospital inpatients, either at admission or during their hospital stay. It is associated with high rates of mortality, complication and institutionalisation,and with longer lengths of stay. Its pathophysiology is unclear; it may in part be due to the effect of increased cortisol release in acute illness, or it may reflect a sensitivity of cholinergic neurotransmission to toxic insults. Older terms for delirium, e.g. acute confusion or toxic confusional state,

***Clinical assessment***

Assessment has two main goals: firstly, to establish the diagnosis of delirium; and secondly, to identify all of the reversible precipitating factors to allow optimal treatment .Delirium often occurs in patients with dementia ,and a history from a relative or carer about the onset and course of confusion is needed to distinguish acute from chronic features.

**Predisposing factors**

• Old age • Dementia • Frailty • Sensory impairment • Polypharmacy • Renal impairment

**Precipitating factors**

• Intercurrent illness • Surgery • Change of environment orward

• Sensory deprivation (e.g.darkness) or overload (e.g.noise)

• Medications (e.g. opioids, psychotropics)

• Dehydration • Pain • Constipation • Urinary catheterisation

• Acute urinary retention • Hypoxia • Fever • Alcohol withdrawal.

Symptoms suggestive of a physical illness, such as an infection or stroke, should be elicited. An accurate drug and alcohol history is required, especially to ascertain whether any drugs have been recently stopped or started. A full physical examination should be performed, noting in particular:

• pyrexia and any signs of infection in the chest, skin, urine or abdomen

• oxygen saturation

• signs of alcohol withdrawal, such as tremor or sweating

• any neurological signs.

***Management***

Specific treatment of all of the underlying causes must be commenced as quickly as possible. However, the symptoms of delirium also require specific management.

Good nursing is needed to preserve orientation ,prevent pressure sores and falls, and maintain hydration, nutrition and continence .The use of sedatives should be kept to a minimum ,as they can precipitate delirium. In any case, many confused patients are lethargic and apathetic rather than agitated. Sedation is very much a last resort, and is appropriate only if patients’ behavior is endangering themselves or others. Small doses of haloperidol (0.5 mg twice daily) or lorazepam (0.5 mg) are tried orally first, and the dose increased if the patient fails to respond. Sedation can be given intramuscularly only if absolutely necessary. In those with alcohol withdrawal or Lewy body dementia ,a reducing course of a benzodiazepine should be prescribed. In other cases, benzodiazepines should be avoided, as they may prolong delirium .The resolution of delirium in old age may be slow and incomplete. Many patients fail to recover to their pre-morbid level of cognition. Delirium may be the first presentation of an underlying dementia and is also a risk factor for subsequent dementia.

**Dizziness**

Dizziness is very common, affecting at least 30% of those aged over 65 years in community surveys. common causes of acute dizziness include:

• hypotension due to arrhythmia, myocardial infarction, gastrointestinal bleed or pulmonary

embolism

• onset of posterior fossa stroke

• vestibular neuronitis.

Although older people more commonly present withrecurrent dizzy spells and often find it difficult to describe the sensation they experience, the most effective way of establishing the cause(s) of the problem is nevertheless to determine which of the following is predominant

(even if more than one is present):

• *lightheadedness*, suggestive of reduced cerebral perfusion

• *vertigo*, suggestive of labyrinthine or brain stem disease

• *unsteadiness/poor balance*, suggestive of joint or neurological disease.

In lightheaded patients, structural cardiac disease(such as aortic stenosis) and arrhythmia must be considered ,but disorders of autonomic cardiovascular control ,such as vasovagal syndrome and postural hypotension, are the most common causes in old age. Hypotensive

medication may exacerbate these.

Vertigo in older patients is most commonly due to benign positional vertigo , but if other brainstem symptoms or signs are present, MRI of the brain is required to exclude a cerebello-pontine angle lesion.