Old-age Psychiatry

Epidemiology

- 15.8 % of the population of England and Wales is aged over 65 years, with 2 % over 85 years
- 34 % of those over 65 live alone
- 13 % severely restricted by handicap
- 1/3 of all psychiatric admission cases and 1/3 of community care referrals are over 65 years old

Psychiatric disorder

Psychiatric disorder	*% prevalence in community over 65 years*	*% of new referrals in 1973 to psychogeriatric service*
Moderate/ severe dementia	3.5	--
Mild dementia	0.8	--
Organic brain syndrome	--	53
Dementias :		
Alzheimer's disease	3.3	39
Multi-infarct dementia	0.7	46
Alcohol-related dementia	0.3	--
Depression	11	30
Schizophrenia	0.3	7
Neurosis and Personality disorder	28	10

Recommendations for care (Royal College of Psychiatrists, 1992)

- 10 beds per 10 000 aged over 65 for acute care
- 25-30 beds per 10 000 aged over 65 for long stay (including respite) care
- community care services should be fully integrated within a general hospital unit, including close liaison with geriatric physician
- one consultant psychogeriatrician per 10 000 elderly
- needs multidisciplinary team, including senior registrar, community nurses, occupational therapist, social workers

The ageing brain

- decreases in weight by approximately 5 % between the ages of 30 and 70, by 10 % by the age of 80, and 20 % by the age of 90
- the ventricles enlarge
- thickening of the meninges
- loss of nerve cells in:
  - parts of the cerebral cortex

    - the pyramidal and granule cells of the hippocampus
    - substantia nigra
    - Purkinje cells of the cerebellum
- there is no loss of nerve cells in:
    - dentate nucleus of cerebellum
- decrease in cortical grey matter with preservation of white matter
- cerebral blood flow in the thalamus and in the frontal and temporal lobes decreases with age

The neurobiology of ageing

- the cytoplasm of nerve cells accumulates a pigment called *lipofuscin* – this occurs from childhood
- a protein called *tau* (involved in linking neurofilaments and microtubules) can accumulate to produce paired helical filaments that form *neurofibrillary tangles*
    - in normal ageing, neurofibrillary tangles are usually confined to the hippocampus and entorhinal cortex
- the normal brain can also contain *senile plaques* (made of amyloid) – can occur in both the neocortex and amygdala, as well as hippocampus and entorhinal cortex
- amyloid can also be found in the walls of blood vessels
- a small proportion of normal brains contain *Lewy bodies*, usually confined to the substantia nigra and locus coeruleus
- rod-shaped Hirano bodies are found near the hippocampal pyramidal cells
    - comprised of the microfilament actin
    - accompanied by granulovacuolar degeneration in the pyramidal nerve cells
- Lewy bodies (abnormal intracellular inclusions) are found in the substantia nigra and locus coeruleus

The psychology of ageing

Intellectual functioning

- intelligence peaks at the age of 25
- it levels off until the age of 60 to 70, then declines
    - performance IQ declines after the age of 30, and drops markedly after age 65
    - verbal IQ is less affected
- many studies have shown an accelerated decline in cognitive functioning in those closest to their deaths – the **terminal drop**, and it may be due to ill health

Creativity

- scientific creativity peaks in the 30s, whereas artistic creativity peaks in the 50s

Psychomotor speed

- reaction times increase with age, with most slowing occurring in the central processing of information
- older people are less able to maintain a state of readiness, and less likely to choose flexible active information-processing than younger people

Short term memory

- short term memory (digit span) does not change

Working memory

- memory tasks requiring monitoring or complex decision-making are performed more poorly in the elderly

Long-term memory

- the retrieval of information is impaired
  - uncued recall shows an age-related decrement
  - cued recall reduces the extent of the decrement
- memory is more durable if coded at the semantic level
- memory of source is impaired in the elderly, which is thought to be related to deficits in frontal lobe functioning
- retention of knowledge is retained with age

The ageing body

- decreased:
  - total body mass
  - body water
  - body muscle
  - rate of gastric emptying
  - blood flow in splanchnic circulation
  - gastrointestinal absorptive surface
  - metabolically active tissue
  - hepatic biotransformation
  - glomerular filtration rate
  - renal tubular function
- increased:
  - body fat
  - gastric pH (i.e. less acidic)

Affective disorder

Epidemiology

- first admissions for affective disorders fall over 65 years, although inception rates for depressive psychoses in elderly men remain high
- 44 % of over-65s score ‘depressed’ on Zung rating scale
- only 20 % of elderly depressives are referred to a psychiatrist within the first 6 months of illness
- other forms of neurotic disorder may gradually change to a depressive neurosis in late middle age
- obsessional and hysterical neuroses may well improve with age
- frequency of depressive episodes in those with history of depression tends to increase with age, and the episodes last longer

Aetiology

1. *Increased prevalence if :*
   a) female
   b) previous psychiatric history
   c) ‘personality deviation’
   d) social isolation
   e) presence of physical ill health
   f) early loss of parent
   g) smoking
   h) lack of satisfaction with life, loneliness
2. *Genetic factors :*
   a) less evidence of familial incidence in late-onset (over 50) compared with early-onset (before 40) depression
   b) risk of affective illness in relatives decreases with increasing age of the patient
3. *Organic factors :*
   a) cerebrovascular disease may act as a precipitant of depression
   b) depression may be a symptom of ‘general systems failure’ – delayed auditory-evoked responses, evidence of ventricular dilatation on CT scan, white matter hyperintensities on MRI, and a higher mortality rate than other depressives
4. *Environmental factors :*
   a) little proof of causative relationship between bereavement, retirement, etc. and affective disorder
5. *Bereavement :*
   a) in the year following death of spouse, there is increased incidence of :
      i) suicide
      ii) death
      iii) psychiatric referral
   b) 16 % are still depressed at 13 months
   c) prolonged grief reaction is seen more commonly in :
      i) the socially isolated
      ii) the poor

    iii) those with little experience of death in earlier life

6. *Personality factors :*
    a) unipolar neurotic depression may be related to obsessional premorbid personality
    b) psychotic depression is less clearly related to this personality type

Clinical features

- agitation is more common than retardation
- often accompanied by :
    - histrionic, importunate behaviour
    - hypochondriacal preoccupations, or delusions
    - delusions of guilt, poverty, nihilism, persecution
    - pseudodementia
- suicide is a particular danger in elderly depressed, socially isolated men
- Post subdivided depression in the elderly into :
    1. *Agitated depression* – apparently shallow affect, bizarre delusions, importunate behaviour, somatic interpretations of anxiety, and high risk of suicide
    2. *Senile melancholia* – severe agitated depression with delusions of nihilism, guilt, grandiosity, and hypochondriasis
    3. *Organic depression* – depressive disorder precipitated or exposed by cerebral disease
    4. *Depressive pseudodementia* – acute onset, prominent complaints of cognitive difficulty, communication of distress, patchy deficits, inattention, mental slowing, absence of focal signs
    5. *Masked depression* – expressed as a physical symptom, or worsening of long-standing neurotic symptoms

Manic-depressive psychosis

- very rarely presents over 65 years
- 5 % of affective states in over-65s are diagnosed as mania or hypomania; mixed affective states are more common
- hypomania in the elderly is characterized by :
    - irritability
    - garrulous, anecdotal speech with little flight of ideas
    - paranoid, or sexual delusions or preoccupations
    - claim to be happy but appear tense, irritable, and miserable, often without any infectious gaiety – 'miserable mania'
    - may present as confusion, and possibly delirium

Management

1. *Drug treatment :*
    a) response to TCAs is often good
    b) side effects tend to be more troublesome
    c) tranquilizers (e.g. THIORIDAZINE or BZDs in low dosage) may be necessary to allay agitation
    d) major tranquilizers are likely to be required in delusional depression
2. *ECT :*

a) may be less hazardous than drugs
b) more rapid response
c) response may be better than in younger patients (Benbow, 1989)

3. *Social therapies :*
   a) day care, residential home, etc.
   b) occupational therapy, home assessment

Prognosis

- similar pattern to depression in younger patients
- 88 % are discharged from hospital, but only 30 % remain symptom-free for 6 years
- 17 % remain chronically depressed
- 30 % die within 6 years
- poor prognosis with :
    - onset after age 70
    - long duration of illness
    - organic brain disease
    - serious physical illness
    - poor compliance
    - severe life-events in the follow-up period
    - senile habitus
    - uninterrupted depression for more than 2 years
    - ventricular enlargement carries higher mortality risk

Paranoid syndromes (includes Late Paraphrenia)

- Kraepelin introduced the term *paraphrenia* in 1909, on the basis that paraphrenics had less of a disturbance in emotion and volition compared to schizophrenia
  - *paranoia* was paraphrenia without hallucinations, and was seen as an intermediate state between dementia praecox and paraphrenia
  - a follow-up by Mayer in 1921 of Krapelin's paraphrenic patients found that 50 out of 78 patients were now schizophrenic
  - in 1931, Kolle could not differentiate between Kraepelin's paranoid patients and his schizophrenic patients
- two schools of thought:
  1. Paranoia is part of schizophrenia
     - supported by the work of Mayer, Gross, and Kolle
  2. Paranoia is different in being mainly psychogenic in aetiology, and occurs in certain sensitive personality types
     - supported by Gaupp's study of mass murderer Wagner
     - Freud's analysis of the memoirs of Schreber
     - Kretschmer's "*Der sensitive Beziehungswahn"*
- *Late paraphrenia* (Roth, 1955) describes paranoid conditions starting after the age of 60 'in a setting of well preserved personality and affective response'

Epidemiology

- 4 % of schizophrenic disorders in men and 14 % in women arise after age 65
- 5-6 % of all psychiatric first admissions after age 65 are for paranoid psychosis
- 10 % of admissions over the age of 60 are due to late-onset psychosis
- **prevalence** : 0.2-0.3 % of population over 65
- M:F = 1:7
  - ? due to age-related fall in D_2 receptors
  - ? protective role of oestrogens
- average age of onset is 74.1 years
- **incidence** is about 17 per 100,000

Aetiology

1. *Genetic :*
   a) increased risk of schizophrenia (3.4%) in relatives of late paraphrenics, but reduced risk compared with early-onset schizophrenia (5.8%)
   b) increased incidence of personality disorder in family, but not of manic-depressive psychosis
   c) association with HLA-B37 for paraphrenia (Naguib *et al.* 1987)
   d) HLA-A9 associated with early-onset schizophrenia, but not late-onset cases
2. *Sensory defects :*
   a) 30-40 % of paranoid psychotics have impaired hearing (Cooper *et al.* 1974)
      i) usually conductive in nature, acquired early in life, and of a degree that impairs social interaction
   b) increased prevalence of visual defects

c) sensory deficits reinforce premorbid traits of social isolation, withdrawal, and suspiciousness

3. *Organic causes :*
   a) cerebral lesions, especially of temporal lobe and diencephalon
   b) other physical disorders may present with paranoia, e.g. Parkinson’s disease, Huntington’s chorea
4. *Personality :*
   a) often withdrawn, suspicious, sensitive premorbid personality – paranoid or schizoid type
   b) occasionally history of schizophreniform illness in earlier life with personality defect since then
   c) often unmarried, or if married are childless (30 %)
   d) said to be cold, unloving parents
   e) frequently live in self-created social isolation
5. *Environmental :*
   a) may be a sudden paranoid reaction to stress in a sensitive personality

Clinical features

- insidious onset of increasingly secluded, isolated and suspicious behaviour – may become mute, withdrawn, flat, and characterless
- often, a well-organized paranoid delusional system is found to be present
- hallucinations may not be present or may be bizarre (e.g. taste or smell of poisons, gases, etc.)
- mood is often congruous; 70 % of paranoid patients appear depressed
- personality is frequently well preserved

Prognosis

- chronic illness with only minor fluctuations in intensity
- with treatment the illness becomes less florid, although the delusional system is often maintained, but doesn’t interfere with life
- good prognosis with :
    - short duration of illness
    - good initial response
- poor prognosis with :
    - severe personality difficulties
    - deafness
    - cerebrovascular disease
    - non-compliance with medication

Treatment

- hospital admission is usually necessary
- phenothiazines are usually required indefinitely
- depot injections are often indicated
- social assessment and therapy are required