

MCQ practice!



A 69 year old woman with depression has not responded to citalopram. You are considering switching to an alternative antidepressant. She is having particular problems with insomnia. Which of the following would be the most appropriate antidepressant choice?

- A amitriptyline
- B dosulepin
- C escitalopram
- D mirtazapine
- E phenelzine

• Answer: D

Mirtazapine is associated with sedation, and is considered an appropriate choice of antidepressant in older adults.

Treatment with an antidepressant is indicated for an elderly gentleman aged 78 years. He is in general good health other than a recent diagnosis of a DVT, and has not previously had an antidepressant. His current medication includes the anticoagulant rivaroxaban. Which would be the most appropriate choice of antidepressant?

- A. amitriptyline
- B. citalopram
- C. mirtazapine
- D. trazodone
- E. venlafaxine

- Answer C
- NICE recommends mirtazapine as the antidepressant of choice in a person on anticoagulant treatment.

Which of the following is true in relation to very late onset schizophrenia like psychosis

- A. It is more common in men
 - B. Partition delusions are unusual
 - C. Onset is after 80 years
 - D. There is no evidence to support use of antipsychotics
 - E. It is associated with an increased risk of dementia
- Answer E: there is an increased risk of dementia

Mrs Sadiq is currently taking sertraline for her depressive illness. She has attended urgent care with acute back pain and has been diagnosed with a herniated lumbar disc. Which of the following analgesics should be avoided with sertraline due to the risk of serotonin syndrome?

- A. codeine
 - B. morphine
 - C. naproxen
 - D. paracetamol
 - E. tramadol
- Answer E
 - Tramadol is associated with serotonin syndrome and there is an additive effect when combined with SSRIs such as sertraline. Naproxen would be an unsuitable choice because of the increased risk of GI bleed.

Following a risk-benefit assessment, treatment with an antipsychotic is indicated for a 69 year old lady with late-onset schizophrenia. She has a history of Type 2 diabetes and ischaemic heart disease and a borderline QTc on ECG. Which of the following antipsychotics would you prescribe?

- A. aripiprazole
- B. flupentixol
- C. olanzapine
- D. quetiapine
- E. risperidone

- Answer A
- Aripiprazole has least effect on QTc. In clinical trials of aripiprazole, the incidence of QT prolongation was comparable to placebo. As with other antipsychotics, aripiprazole should be used with caution in patients with a family history of QT prolongation.

Posterior Reversible Encephalopathy Syndrome (PRES) may present with acute psychiatric symptoms. Which of the following is true?

- A. It is associated with micro-bleeds in the occipital cortex
- B. It can be caused by immunosuppressant drugs
- C. Psychiatric symptoms typically include well-formed visual hallucinations
- D. Treatment includes IV acyclovir
- E. Brain MRI will show areas of hypo intensity in the occipital cortex

- Answer: B
- PRES is associated with a vasogenic oedema. It is frequently associated with hypertension, sepsis, pre-eclampsia, eclampsia, autoimmune disorders (e.g. rheumatoid arthritis, Crohn's disease, systemic lupus erythematosus), renal failure, hypomagnesemia, hypercalcemia, hypercholesterolemia, and exposure to immunosuppressive or cytotoxic medications. Clinically, PRES includes several types of clinical signs and symptoms. Approximately 50 to 80 percent of PRES patients are encephalopathic, 60 to 75 percent manifest with seizures, 50 percent with headaches, 33 percent with visual disturbances, 10 to 15 percent with focal neurologic deficits, and five to 15 percent with status epilepticus. MRI brain will demonstrate hyper intense areas in the occipital cortex. Management involves controlling the hypertensive crisis and correcting any causative factors. Most patients make a full recovery in days to weeks.

Regarding with use of psychotropic medication in severe CKD (eGFR 15-29 mL/min) which of the following is false?

- A. Benzodiazepines do not require any dose reduction.
 - B. Sertraline is a good 1st line choice for an antidepressant.
 - C. Lithium must be discontinued immediately.
 - D. The half-life of amisulpiride would double
 - E. The majority of psychotropic drugs are hepatically metabolised
- Answer C
 - Lithium does not necessarily need to be discontinued immediately. Although not ideal, lithium is often continued in the context of significant renal impairment, sometimes necessitating the need for dialysis. A careful assessment of the risks and benefits is required, in addition to close liaison with the renal physicians.

A 75 year old gentleman is admitted to the acute hospital in a confused state. Which of the following symptoms is associated with Lewy Body disease rather than delirium ?

- A. Fluctuation in symptoms
- B. Reversed sleep/wake cycle
- C. Hypomimia
- D. Raised CRP
- E. Visual hallucinations

- Answer: C
- DLB and delirium can be difficult to distinguish from each other clinically. A fluctuation in symptoms occurs in both. Reversal of sleep wake cycle occurs in delirium whereas DLB is associated with REM sleep behaviour disorder. Raised CRP suggest acute illness and delirium. Visual hallucinations occur in both – in DLB they tend to involve small children or animals. Hypomimia is the mask like facial expression observed in Parkinsonian syndromes – it would be a supportive feature of DLB. A more insidious onset with gradual decline in cognitive and functional ability would be in keeping with DLB. There is increasing evidence to suggest recurrent delirium is often observed as part of the prodromal phase of DLB.

A 65 year old gentleman presents with disinhibited behaviour, word finding difficulty and lability of mood. An MRI shows white matter ischaemic changes in the cerebellum. What is the most likely cause from the list below?

- A. Lesch-Nyhan syndrome
- B. Shakhonovich's syndrome
- C. Cornelia de Lange syndrome
- D. Schmahmann syndrome
- E. Pierre Robin syndrome

- Answer D: Schmahmann Syndrome

- <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.324.7308&rep=rep1&type=pdf>

A 65 year old gentleman with previous acquired brain injury and schizophrenia is admitted to a medical ward with confusion and bizarre behaviour. He is on olanzapine 20mg od. He is afebrile. Blood tests reveal moderately raised CK and his white cell count is normal. Grimacing and echopraxia were noted on mental state examination. What is the most likely diagnosis?

- A. Catatonia
- B. Serotonin syndrome
- C. Neuroleptic malignant syndrome
- D. Temporal lobe epilepsy
- E. Dissociative disorder

- Answer: A Catatonia
- Previous head injury, schizophrenia and antipsychotic use all predispose to catatonia. The normal white cell count, normal temperature and echopraxia are all supportive of catatonia over neuroleptic malignant syndrome. In neuroleptic malignant syndrome the CK tends to be markedly elevated with a raised white cell count. The table below compares the two conditions.

| | NMS | Catatonia |
|--------------------------|--------|-----------|
| Clinical signs | | |
| Hyperthermia | +++ | + |
| Motor rigidity | ++/+++ | ++ |
| Mutism | ++ | +++ |
| Autonomic Instability | ++++ | ++ |
| Laboratory findings | | |
| Elevated CPK | +++ | ++ |
| Leukocytosis | +++ | + |
| Myoglobinuria | ++ | _+ |

+ – Slight; ++ – Moderate; +++ – Marked; ++++ – Severe; _+ – Slight/none;
NMS – Neuroleptic malignant syndrome; CPK – Creatine phosphokinase

Which of the following is *not* a core clinical feature of Lewy Body Dementia?

- A. REM sleep behaviour disorder
 - B. Autonomic instability
 - C. Recurrent visual hallucinations
 - D. Spontaneous Parkinsonism
 - E. Fluctuating cognition
- Answer B: Autonomic instability
 - REM sleep behaviour has been added to the core features in the revised 2017 criteria
 - https://www.lbda.org/sites/default/files/2017_professional_brief_-_dlb_diagnostic_criteria_0.pdf

In relation to anorexia nervosa in older people, which of the following is true?

- A. They are more likely suffer body image disturbance.
- B. They often abuse laxatives
- C. Pre-occupation with weight is less common.
- D. The presence of depression excludes an eating disorder.
- E. There is a strong evidence base for treatment.

- Answer: C
- Preoccupation with weight and body image disturbances are less common in anorexia nervosa in the elderly. Depression often co-exists. Although management is broadly the same as for younger onset, the evidence base to support any specific interventions in the older patient group is very limited.

Which if the following statements is true regarding physiological control of appetite in the elderly?

- A. CCK levels decline in the elderly
- B. There is decreased sensor specific satiety
- C. Fundal compliance is increased
- D. Ghrelin levels increase with age
- E. Gastric emptying is occurs at a faster rate

- Answer: B
- CCK levels increase with age. Fundal compliance is decreased. Ghrelin levels remain unchanged but there is decreased sensitivity to it. Gastric emptying is delayed with age. There is decreased sensor specific satiety with age which means that the patient may eat one type of food and not feel like eating anything else.

Which drug can cause anorexia?

- A. Lamotrigine.
- B. Mirtazapine.
- C. Topirmate.
- D. Prednisolone.
- E. Megestrol.

- Answer: C
- Topirmate is well known to reduce appetite and is often prescribed to help people lose weight in the US. Predisolone is often used to stimulate appetite in cancer patients. Megestrol is used to stimulate appetite in patients with cancer and cystic fibrosis. Mirtazapine is well known to increase appetite. Lamotrigine is not known for any specific effects on appetite.

Which of the following is a screening tool for malnutrition in the elderly?

A. M-CHAT-R

B. MAST

C. SCOFF

D. Y-BOCS

E. MUST

- Answer: E

- M-CHAT-R is modified checklist for autism in toddlers. MAST is the Michigan Alcohol Screening Tool. SCOFF is a screening tool for eating disorders. Y-BOCS is the Yale-Brown Obsessive Compulsive Scale.

There is an association between fronto-temporal dementia and which of the following

- A. motor neurone disease
- B. epilepsy
- C. multiple sclerosis
- D. head trauma
- E. encephalitis

- Answer A motor neurone disease
- The recognition of clinical, pathological and genetic overlaps between frontotemporal dementia (FTD) and motor neuron disease (MND) supports the view that FTD and MND form the extremes of a disease spectrum, with a predominance of cognitive symptoms at one end and motor dysfunction at the other (Clark and Forman, 2006; Neumann *et al.*, 2006). Although evidence of such an overlap at pathological and genetic levels is now substantial, the frequency and severity of clinical and subclinical motor neuron dysfunction in FTD is unknown.

A 70 year old gentleman with a history of previous small cell carcinoma had completed a course of chemotherapy. He became more apathetic and had periods of sudden aggression 4 weeks after the chemotherapy. He was also increasingly forgetful. He was admitted to hospital after a seizure. He was found to be hyponatraemic. CT brain was normal. MRI showed an area hyper intense T2-FLAIR signal in the left medial temporal lobe. Which diagnosis is likely from the information provided?

- A. Brain metastases
- B. Paraneoplastic syndrome
- C. Hypoxia
- D. Pseudo seizures in context of an adjustment reaction
- E. Carboplatin and etoposide neurotoxicity

- Answer: B paraneoplastic syndrome – limbic encephalitis.
- Metastatic brain disease would be seen on the brain scan. Hypoxia may cause seizures but it would have to be acute and there would be other respiratory signs and symptoms. Pseudo-seizures could be possible, although in this situation they are a diagnosis of exclusion and the findings suggest organic pathology. Carboplatin and etoposide can cause neuro toxicity but this would typically cause confusion, not seizures. Limbic encephalitis is a paraneoplastic syndrome associated with small cell lung cancer. It typically presents with memory problems, behaviour change and seizures. A profound hyponatraemia is often observed. A T2 weighted MRI brain scan often shows a hyper intense area in the medial temporal lobes.

Augmentation of mirtazapine with lithium is a potential treatment strategy for a 70 year old lady on the inpatient older adult ward with treatment resistant depression. You seek to involve her making an informed decision about the treatment and provide information on the required monitoring, side-effects and toxicity. Which of the following is a side-effect of lithium rather than an indicator of lithium toxicity?

- A. blurred vision
- B. fine tremor
- C. muscle weakness
- D. severe gastrointestinal disturbance
- E. slurred speech

- Answer B
- Fine tremor (hand tremor) is a common side-effect of lithium in contrast to a coarse tremor which could be indicative of toxicity. All of the others are signs of acute toxicity.

Which of the following is not a feature of restraint under the Mental Capacity Act?

A. The action must be necessary.

B. The action must be in proportion to harm.

C. Restraint must diminish as the harm diminishes.

D. Harm includes psychological as well as physical harm.

E. Restraint can be used to protect other people from harm.

- Answer: E

- Restraint cannot be used if it is to protect *other people* from harm. In this instance common law can be used, or, if deprivation of liberty occurs, the MHA should be used.

Any action intended to restrain a person who lacks capacity will not attract protection from liability unless the following two conditions are met:

***the person taking action must reasonably believe that restraint is necessary to prevent harm to the person who lacks capacity, and
the amount or type of restraint used and the amount of time it lasts must be a proportionate response to the likelihood and seriousness of harm.***

In addition to the requirements of the Act, the common law imposes a duty of care on healthcare and social care staff in respect of all people to whom they provide services. Therefore if a person who lacks capacity to consent has challenging behaviour, or is in the acute stages of illness causing them to act in way which may cause harm to others, staff may, under the common law, take appropriate and necessary action to restrain or remove the person, in order to prevent harm, both to the person concerned and to anyone else.

However, within this context, the common law would not provide sufficient grounds for an action that would have the effect of depriving someone of their liberty (see paragraphs 6.49–6.53).

A 55 year old gentleman has started noticing problems with his eyesight. He had been to the opticians a number of times and even underwent cataract surgery. However, his visual symptoms persisted and continued to worsen. He had trouble recognising objects and people. He was also more sensitive to bright light and experienced prolonged colour after-images.

- A. Balint's syndrome.
 - B. Gerstmann syndrome.
 - C. Benson's syndrome.
 - D. Brown-Sequard syndrome.
 - E. Charles Bonnet syndrome.
- Answer: C Benson's syndrome or posterior cortical atrophy.
 - Benson's syndrome is also known as posterior cortical atrophy, an atypical presentation of Alzheimer's dementia.

Balint's syndrome is a rare neurological condition which causes: oculomotor apraxia (the inability to intentionally move your eyes towards an object), optic ataxia (the inability to accurately reach for something you're looking at) and visual simultagnosia (an inability to see the whole picture).

Gerstmann syndrome is characterized by four primary symptoms: Dysgraphia/agraphia (deficiency in the ability to write), dyscalculia/acalculia (difficulty in learning or comprehending mathematics), finger agnosia (inability to distinguish the fingers on the hand) and left-right disorientation.

Brown-Sequard syndrome (BSS) is a rare neurological condition characterized by a lesion in the spinal cord which results in weakness or paralysis (hemiparaplegia) on one side of the body and a loss of sensation (hemianesthesia) on the opposite side.

Charles Bonnet syndrome (CBS) is a type of visual disturbance and the experience of complex visual hallucinations in a person with partial or severe blindness.

Which is the most sensitive and specific diagnostic test for variant CJD?

- A. Neuropsychological testing
- B. CFS analysis
- C. MRI
- D. EEG
- E. Tonsillar biopsy

- Answer: E tonsillar biopsy
- Scrapie prion protein is found in lymphoid tissue in vCJD. Tonsillar biopsy is not used in sporadic CJD where a brain biopsy is needed.

Lithium interacts with a number of other medicines. Which of the following drugs increases the risk of neurotoxicity **without** causing an increase in the plasma concentration of lithium?

- A. bendroflumethiazide
- B. diltiazem
- C. ibuprofen
- D. losartan
- E. ramipril

- Answer: B diltiazem

- All of the rest increase chance of neurotoxicity by increasing levels

Which of the following is most suggestive of vascular Parkinsonism?

- A. Asymmetrical pin rolling tremor
- B. Wide based shuffling gait
- C. Autonomic dysfunction
- D. Good response to levodopa
- E. Festination

- Answer B: wide based shuffling gait
- Asymmetrical tremor and good levodopa response in idiopathic PD
- Autonomic dysfunction in LBD
- Festination less likely in VP

Which of these drugs has the worst anticholinergic effect?

- Oxybutynin
- Atenolol
- Loratadine
- Amantadine
- Diazepam

- Answer: A Oxybutynin
- ACB score of 3
- Amantadine 2
- All the other score 1