Pharmacology MCQs

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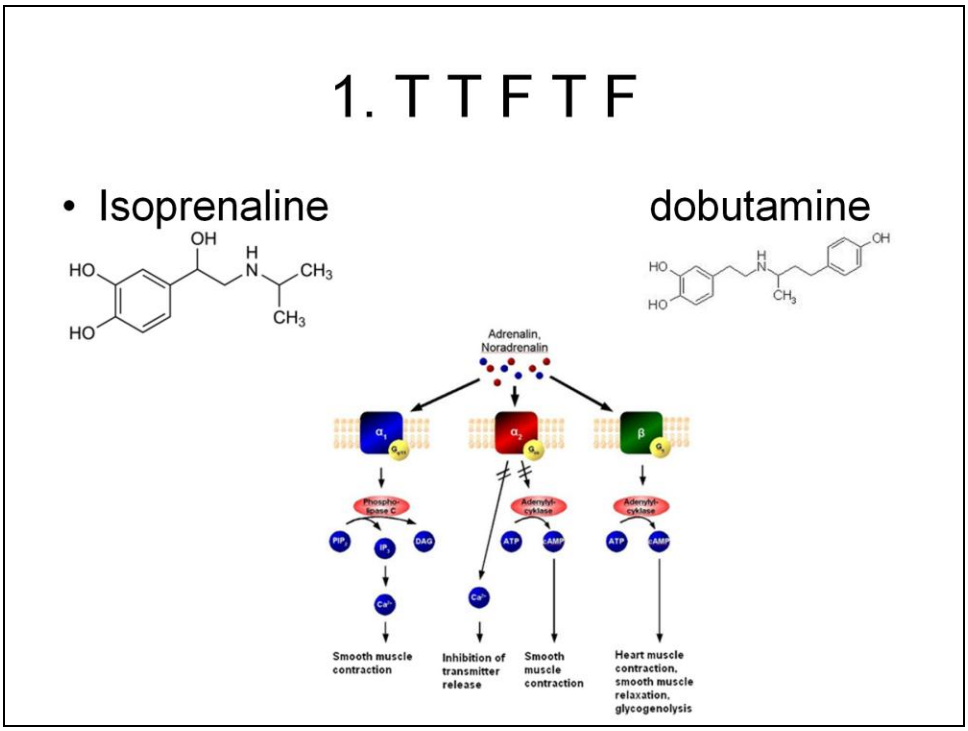
1 Dobutamine

A. is structurally similar to Isoprenaline
B. activates adenyl cyclase
C. has a selective action on beta-1 adrenoreceptors
D. has a half-life of 2 minutes
E. increases the left ventricular end-diastolic pressure



a) **True**

Dobutamine is a synthetic catecholamine with a similar structure to isoprenaline.

b **True**

Dobutamine is an agonist at catecholamine receptors. Activation of these receptors results in an increase in the activity of adenyl cyclase, which catalyses the conversion of ATP to cAMP. This increases the cell membrane permeability to calcium resulting in inotropy.

c) **False**

Dobutamine is predominantly a ß1 adrenergic agonist which increases contractility, heart rate and myocardial oxygen requirements. It is a weak agonist at ß2 and a adrenoceptors.

d) **True**

The plasma half life of dobutamine is 2 minutes and it is infused at 2.5-10 µg/kg/min. it is metabolised by COMT to in active metabolites that are conjugated and excreted in the urine

e)**False**

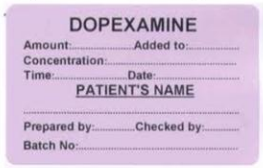
Dobutamine causes a decrease in left ventricular end-diastolic pressure.

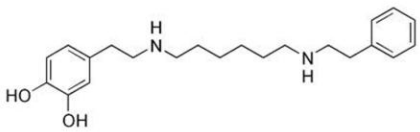
2. Dopexamine

A. causes arterial vasoconstriction
B. is an agonist at dopaminergic D1 and D2 receptors
C. increases the force of myocardial contraction
D. increases renal blood flow
E. causes arrhythmias

2. F T T T T

- Synthetic analogue of dopamine





a) **False**

Dopexamine causes arterial vasodilatation causing a small decrease in diastolic blood pressure and decreased afterload.

b) **True**

This leads to relaxation of vascular smooth muscle in renal, mesenteric, cerebral and coronary arteries (D1 effect) and stimulation of sympathetic pre-junctional receptors decreasing noradrenaline release (mild D2 effect). Dopexamine also has strong beta-2 agonist action and inhibits uptake-1 of noradrenaline.

c) **True**Dopexamine is a positive inotrope and therefore increases cardiac output.

d) **True**

Increased cardiac output and decreased renal vascular resistance causes an increase in renal blood flow.

e) **True**

Side-effects of dopexamine include arrhythmias, mild tachycardia, angina, tremor, flushing nausea and vomiting and headache.

3. Drug clearance by the body

A. only refers to elimination by the kidney
B. refers to the volume of blood cleared of the drug in unit time
C. cannot exceed the glomerular filtration rate
D. may be influenced by renal tubular secretion
E. is the same as creatinine clearance

3. F T F T F

- CL = k vD
- Ml. min-1

Total volume of drug cleared from a compartment per min is is the product of the rate constant for elimination and the volume of distribution.

a) **False**

Clearance usually refers to elimination by the kidney but may be by the liver or the lungs.

b) **True**

Clearance is a calculated number which is used to indicate how much of a drug is removed from the plasma in a given period of time. It usually refers to removal by the kidney and is calculated from:
Amount of substance excreted in urine per unit time / plasma concentration of substance

c) **False**

If clearance is greater than glomerular filtration rate, the drug is secreted by the tubular cells of the kidney into the urine.

d) **True**

e) **False**

Creatinine clearance is the clearance of creatinine and is used as an estimate of glomerular filtration rate (GFR). If the drug is secreted by the renal tubular cells or incompletely removed by the kidney, clearance will be different to GFR and hence different to creatinine clearance.

4. **Esmolol**

A. has a negative inotropic effect
B. has no intrinsic sympathomimetic activity
C. causes a dose-dependent fall in heart rate
D. increases airways resistance
E. may prolong the duration of action of suxamethonium

4. T T T T T

- Esmolol is relatively cardio selective
- Rapid on and off set
- Treats Tachycardia, hypertension and SVT
- Metabolised by red cell esterases.

a) **True**

The cardiac output is decreased by about 20%.

b) **True**

Esmolol has little or no sympathomimetic activity.

c) **True**

Esmolol competitively blocks beta-adrenergic receptors and causes a dose-dependent decrease in heart rate.

d)**True**

Esmolol may precipitate bronchospasm in susceptible individuals.

e)**True**

Most texts quote that it has been shown to increase the time to recovery from suxamethonium from 5.6 to 8.3 minutes.
[However, Peck & Williams state that it does not prolong the actions of suxamethonium!]

5. **Hepatotoxicity has been associated with**

A. Diethyl ether
B. Chloroform
C. Cyclopropane
D. Enflurane
E. Halothane

5. F T F T T

Agent	Extent of absorbed dose metabolized (%)	Reference No.
Sevoflurane	1.6	4
	3.3 ± 1.7[a]	41
	4.9 ± 1.6[a]	51
Halothane	46.1 ± 2.7[a]	55
Methoxyflurane	75.3 ± 4.8[a]	55
Enflurane	8.5 ± 3.0[a]	55
Isoflurane	0.2–2	56, 57
Desflurane	0.02[b]	54

[a] Mean ± SD.

[b] Desflurane metabolism was estimated by Sutton et al. (54) as one tenth that of isoflurane, using the assessment of Holaday et al. (56) that 0.2% of isoflurane was metabolized. If the 2% extent of isoflurane metabolism calculated by Davidkova et al. (57) is used, then desflurane metabolism may be approximately 0.2%.

a) **False**Diethyl ether is also known simply as ether. It causes a decrease in hepatic function and biliary secretion which is transient only. b)**True**Chloroform is no longer used due to hepatic and cardiac toxicity. c) **False**Cyclopropane was explosive and caused cardiac irritability and emergence delirium and is no longer produced. d) **True**Hepatic damage can occur with enflurane. e) **True**Halothane can cause a reversible hepatitis with high transaminases. Multiple exposures, obesity, middle age and female sex are risk factors for the more serious halothane hepatitis, which has a mortality rate of 50-75%.

6. **In acute intermittent porphyria, the following, drugs may be safely used**

A. Etomidate
B. Ketamine
C. Midazolam
D. Pethidine
E. Cotrimoxazole

6. F F T T F

- Over production and excretions of porphyrins
- during haemoprotein synthesis
- Drugs,stress,infection, alcohol, menstruation, pregnancy and starvation

a **False**

Etomidate is unsafe to use in acute intermittent porphyria.

b) **False**

The BNF states that ketamine is unsafe to use in acute porphyrias.

C)**True**

Midazolam is probably safe; use with caution.

d)**True**

Pethidine may be safely used.

e) **False**

Sulphonamides, including co-trimoxazole and sulfasalazine, should not be used.

6. Unsafe drugs in AIP

- Barbiturates, phenytoin, sulphonamides
- Etomidate, lignocaine, chlordiazepox
- Controversial- diazepam,halothane, corticosteroids, ketamine, propofol.

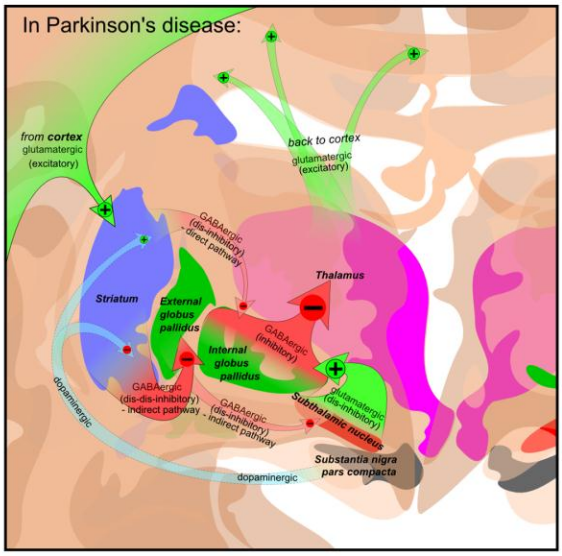
6. Safe in AIP

- Opioids, nitrous, sux,
- atropine,neostigmine,bupivicaine,
- prilocaine, propranalol, chlorpheniramine,
- chlorpromazine, aspirin,insulin,
- paracetamol

7. **L-dopa**

A. is more lipid soluble than dopamine
B. may produce postural hypotension
C. may cause nausea
D. may cause abnormal movements
E. is ineffective via the oral route

7. T T T T F



a) **True**

L-dopa crosses the blood-brain barrier, dopamine does not.

b) **True**

L-dopa may produce hypotension, tachycardia and arrhythmias.

c) **True**

Nausea and vomiting are side effects that are decreased by giving an extracerebral dopa-decarboxylase inhibitor.

d) **True**

L-dopa may cause involuntary movements and psychiatric symptoms.

e) **False**

It is given orally.

8. Low plasma cholinesterase activity:

A. is related to the patient's blood group
B. has no effect on the action of decamethonium
C. occurs with organophosphorus poisoning
D. prolongs the action of esmolol
E. occurs in malnutrition

8. F F T T T

- Plasma cholinesterase hydrolyses acetylcholine and suxamethonium
- Normal enzyme 94% homozygotes
- Atypical 0.03%
- Silent 0.001%
- Fluoride resistant 0.0001%
- Or acquired deficiency

a) **False**

Blood group is independent of plasma cholinesterase activity.

b) **False**

c) **True**

The organophosphorus anticholinesterases also inhibit plasma cholinesterase.

d) **True**

Controversy. A-Z and Peck & Williams say that esmolol is not affected by plasma cholinesterase but Sasada & smith say that it prolongs the duration of action of suxamethonium from 5.6 to 8.3 minutes.

e) **True**

Plasma cholinesterase can have decreased activity in malnutrition, pregnancy, liver disease, hypoproteinaemia, renal and cardiac failure, thyrotoxicosis, muscular dystrophy, burns patients, cancer and with certain drugs.

9. **Morphine**

A. causes histamine release
B. has no active metabolites
C. undergoes extensive first-pass hepatic metabolism
D. has an elimination half-life of 3-4 hours
E. may be antagonised by pentazocine

9. T F T T T

- Mu receptor agonist
- Resp depressant, histamine release, bronchospasm, N+V, itch
- Morphine 3 gluconuride 70%
- Morphine 6 13 times more potent

a) **True**

Histamine release may cause pruritus.

b) **False**

Morphine is metabolised to normorphine, morphine-3-glucuronide and morphine-6-glucuronide. The latter has analgesic activity.

c)**True**

Oral bioavailability is 15-50% due to this.

d) **True**

The glucuronide conjugates are excreted by the kidney.

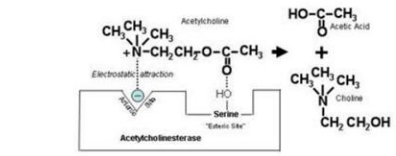
e) **True**

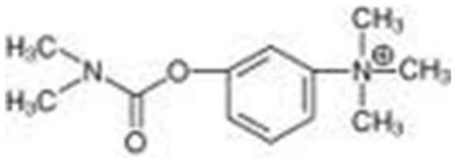
Pentazocine is a partial agonist with agonist activity at ? receptors and antagonist activity at μ receptors; it may therefore antagonise the agonist activity of morphine at μ receptors

10. Neostigmine

A. is eliminated entirely by the liver
B. causes foetal bradycardia when given to a pregnant woman
C. causes miosis
D. is a quaternary ammonium compound

10. F F T T





a)**False**

It is excreted mostly unchanged by the kidney, with an elimination half-life of 50-90 minutes.

b) **False**

Neostigmine has a low volume of distribution and does not cross the blood-brain barrier or placenta because it is ionised.

c) **True**

It also causes the muscarinic side effects of sweating, miosis and bladder contractility.

d) **True**

Neostigmine is a quaternary amine cholinesterase inhibitor/anticholinesterase

11. **Nifedipine**

A. causes tachycardia
B. causes tremor
C. causes hypoglycaemia
D. can be given sublingually
E. dilates skeletal muscle arterioles

11. T T F T T

- Reduces tone in peripheral and coronary arteries
- Reduced SVR, BP
- Increased coronary flow, HR, Contractility
- CO increased

a) **True**

The blood pressure is reduced causing reflex increases in heart rate and contractility. Cardiac output is thus increased.

b) **True**

Nifedipine may cause a tremor.

c) **False**

Nifedipine does not cause hypoglycaemia.

d)**True**

Sublinugal administration has a faster onset than if given orally.

e) **True**

It blocks calcium channels, reducing the entry of calcium into the cells and thus causing inhibition of contraction of smooth muscle. It therefore causes myocardial and peripheral arterial dilatation.

12. **Non-depolarising neuromuscular blockers are potentiated by:**

A. Lithium
B. Diazepam
C. Trimetaphan
D. Magnesium
E. Suxamethonium

12. T F T T T

- pharmocological
- Volatiles
- aminoglycosides
- Lithium
- Ca channel blockers
- Physiological
- Hypothermia
- Acidosis
- Hypokalaemia
- hypermagnaesaemia

a) **True**

Lithium prolongs blockade by blocking sodium channels.

b) **False**

Diazepam does not affect the action of neuromuscular blocking agents.

c) **True**

Trimetaphan prolongs the action of both depolarising and non-depolarising neuromuscular blockers.

D) **True**

Hypermagnesaemia prolongs the action of neuromuscular blocking drugs.

e)**True**

Suxamethonium prolongs the duration of non-depolarising neuromuscular blockade

13. **Organophosphorus anticholinesterases:**

A. have an irreversible action
B. phosphorylate cholinesterase
C. can have their action reversed in the early stages by atropine
D. are readily absorbed through the skin
E. form the active component of insecticides

13. T T T T T



a) **True**

Organosphorous anticholinesterases irreversibly phosphorylate the esteratic site of acetylcholinesterase inhibiting it. Inhibition lasts for weeks until new enzyme is produced.

b) **True**

Organosphorous anticholinesterases irreversibly phosphorylate the esteratic site of acetylcholinesterase inhibiting it. Inhibition lasts for weeks until new enzyme is produced.

c) **True**

Atropine can be used to reverse the muscarinic effects but will not prevent the central effects, seizures or nicotinic effects.

d) **True**

They are very lipid soluble and so are quickly absorbed through the skin.

14. Phenytoin

A. shows first-order elimination kinetics
B. induces enzymes
C. causes hypotension
D. causes vitamin B2 deficiency
E. has a half-life of about 4 hours

14. T T T F F

- Dose related- ataxia, nystagmus, paraesthesia, vertigo, slurred speech, hypotension, heart block
- Dose 10-20 micro/ml
- idiosyncratic,- acne, coarse facial features,hirstutism, gum hyperplasia, megaloblastic anaemia, rashes, neuropathy

a) **True**

Phenytoin shows first-order elimination kinetics in the therapeutic range. It shows zero-order elimination just above the therapeutic range, as a result of saturation of liver enzymes, so that toxicity can occur with a small increase in dose.

b)**True**

Phenytoin induces hepatic enzymes reducing the effectiveness of benzodiazepines, pethidine, the oral contraceptive pill and warfarin.

c) **True**

Rapid intravenous infusion may cause hypotension, heart block, ventricular fibrillation or asystole.

d)**False**

Idiosyncratic side-effects include rash, gum hyperplasia, acne, blood dyscrasias, systemic lupus erythematosus, hepatotoxicity and allergy, but not vitamin B2 deficiency.

e) **False**

The elimination half-life is 9-22 hours in the first-order kinetics range, but is prolonged when the zero-order kinetics range is reached.

15. Side-effects of hydralazine include

A. Tachycardia
B. Impotence
C. Constipation
D. systemic lupus erythematosus
E. bronchoconstriction

15. T F F T F

- Treating pre- eclamptic hypertension
- Peripheral neuropathy, blood dyscrasias

a) **True**

It causes a reflex tachycardia and increased cardiac output.

b) **False**

This is not a side-effect.

c) **False**

This is not a side-effect.

d) **True**

Side-effects include systemic lupus erythematosus, particularly in slow acetylators and women.

e)**False**

This is not a side-effect.

16. **Sodium valproate**

A. is effective in grand mal epilepsy
B. is effective in petit mal epilepsy
C. is safe in patients with liver disease
D. should not be given to children
E. increases brain concentrations of gamma-amino butyric acid (GABA)

16. T T F F T

- Stabilises inactive sodium channels
- Stimulates central Gaba-ergic inhibitory pathways

a)**True**Sodium valproate is used for petit-mal and grand-mal epilepsy and chronic pain especially trigeminal neuralgia.b)**True**c)**False**It can cause hepatic dysfunction and should not be used in patients with liver disease. Liver function tests should be monitored during chronic treatment.d) **False**Sodium valproate can be given to children.e)**True**The mode of action of valproate is thought to be by increasing brain concentrations of the inhibitory neurotransmitter GABA.

17. **Statistical tests are used to**

A. Eliminate observer bias
B. eliminate placebo effect
C. show that results are true
D. show that the results did not occur by chance
E. show that the results are clinically significant

17. F F F T F

a) **False**

Observer bias is eliminated by blinding the observer to the treatment.

b) **False**

The use of a control is to attempt to eliminate the placebo effect.

c) **False**

They are used to compare data and calculate the probability that the observed differences are due to chance alone.

d) **True**

The p value is used to indicate the probability that a result could occur by chance alone.

e) **False**

Tests can show whether results are statistically significant. They must be interpreted to determine whether they are clinically significant.

18. **Sulphonylureas**

A. act by increasing insulin release
B. tend to produce weight loss
C. are suitable for use in pregnancy
D. are effective in correcting ketoacidosis
E. can produce hypoglycaemia

18. T F F F T

- Displace insulin from B cells in the islets of langerhans
- Reduce peripheral resistance to insulin
- B cell hyperplasia, reduce glucagon secretion, reduce hepatic insulinase activity

a) **True**

Sulphonylureas are used in type II diabetes and increase insulin release from the pancreas.

b) **False**

Treatment with sulphonylureas is associated with weight gain.

c) **False**

They may cause neonatal hypoglycaemia and are usually substituted with insulin during pregnancy.

d) **False**

Correction of ketoacidosis requires insulin.

e) **True**

The increased release of insulin may cause hypoglycaemia

19. Tetracycline

A. may be hepatotoxic in large doses
B. is extensively metabolised
C. is contraindicated in pregnancy
D. potentiates non-depolarising muscle relaxants
E. absorption is decreased by magnesium trisilicate

19. T F T T T

- Chlamydia
- Rickettsia,
- Spirochaete
- Brucella
- Mycoplasma infections
- Acne
- leptospirosis

a) **True**

Tetracycline may cause renal and hepatic impairment, as well as gastrointestinal and haematological disturbances.

b) **False**

95% is excreted unchanged.

c) **True**

Breastfeeding and pregnancy are contraindications, as is age under 12 years old.

d) **True**

Tetracycline does increase the actioin of non-depolarising muscle relaxants.

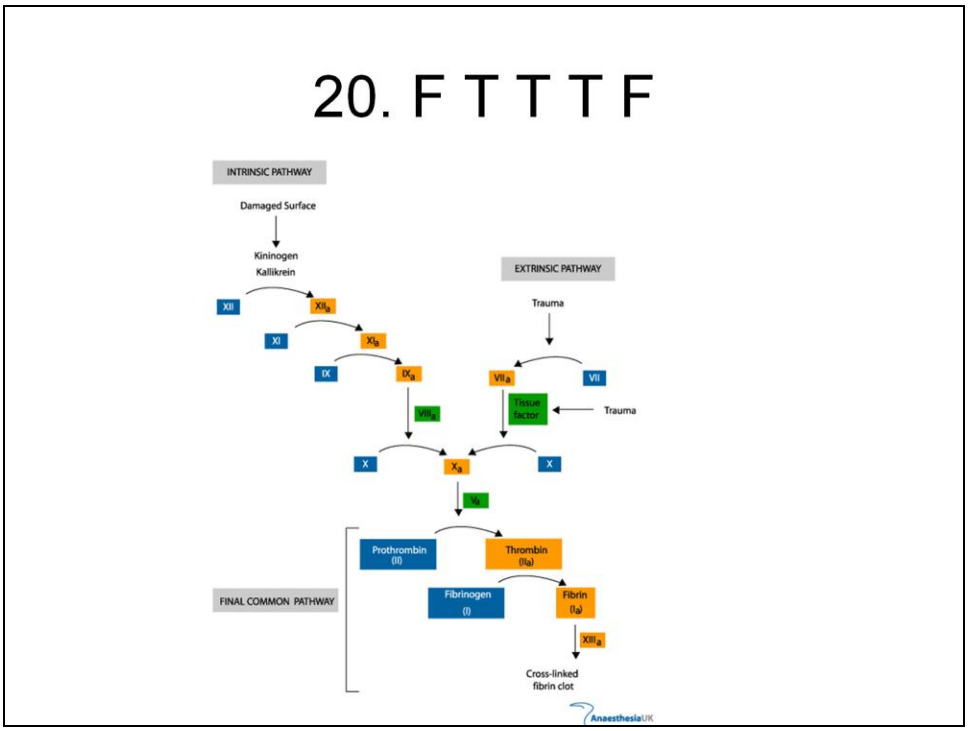
e)**True**

Chelation with magnesium and calcium ions in the intestine decreases absorption.

20 The anticoagulant effect of warfarin

A. is exerted directly on the blood
B. is slow in onset
C. can be reversed by vitamin K
D. is potentiated by phenylbutazone
E. is potentiated by barbiturates

20. F T T T F



a) **False**

Warfarin acts by inhibiting the conversion of oxidised to reduced vitamin K in the liver, which is necessary for production of coagulation factors II, VII, IX and X. It therefore takes days to establish its effect.

b)**True**

Warfarin acts by inhibiting the conversion of oxidised to reduced vitamin K in the liver, which is necessary for production of coagulation factors II, VII, IX and X. It therefore takes days to establish its effect.

c) **True**

By giving vitamin K and waiting for the production of new coagulation factors, its effect can be reversed. More rapid reversal of anticoagulation can be achieved with coagulation factors or fresh frozen plasma.

d) **True**

Increased effects can occur with drugs that are highly protein bound such as sulphonamides and NSAIDS such as phenylbutazone.

e) **False**

Its effect can be reduced by drugs that induce hepatic enzymes, such as barbiturates, rifampicin and carbamazepine.

21 The Chi-squared test

A. is used to compare the frequencies of occurrence
B. requires the standard error of the mean to be calculated
C. does not require a knowledge of the number of degrees of freedom
D. should not be used for data with small groups
E. does not involve the null hypothesis

21. T F F T F

True

The Chi-squared test is used to compare the observed versus the expected frequencies of an occurrence.

requires the standard error of the mean to be calculated

False

Standard error of the mean is used to compare how well the mean of a sample represents the true mean of the population. It is equal to the standard deviation divided by the square root of the number of values. It is therefore used for normally distributed continuous data (parametric). The Chi-squared test is used for non-parametric nominal data.

does not require a knowledge of the number of degrees of freedom

False

The degrees of freedom is equal to the [number of columns minus one] multiplied by the [number of rows minus one] and is needed to read off the Chi-squared value from a set of tables.

True

If any expected frequency is less than 5, then results are not reliable with the Chi-squared test, and Fisher's exact test should be used.

does not involve the null hypothesis

False

The null hypothesis is that there is no difference between the two groups.

22. The following act by blocking cholinergic receptors

A. Trimetaphan
B. Hexamethonium
C. Ouabain
D. Benzhexol
E. Physostigmine

22. T T F T F

a) **True**

Trimetaphan is a ganglion-blocking drug that blocks nicotinic acetylcholine receptors at autonomic ganglia. It is used as an infusion to produce hypotensive anaesthesia.

b) **True**

Hexamethonium is also a ganglion-blocking drug.

c) **False**

Ouabain is a cardiac glycoside drug which acts by inhibition of the sodium/potassium pump, increasing the intracellular concentration of sodium (and also calcium, which is exchanged for sodium) and decreasing the concentration of potassium.

d) **True**

Benzhexol is a muscarinic antagonist which crosses the blood-brain barrier and is used to treat Parkinsons disease.

e) **False**

Physostigmine is an anticholinesterase with a tertiary amine structure, which therefore crosses the blood-brain barrier.

23 The following are measures of scatter in statistical analysis

A. Mean
B. standard error of the mean
C. standard deviation
D. Range
E. p of less than 0.5

23. F T T T F

a) **False**

The mean is the sum of all the values divided by the number of values, commonly known as the average. It is a measure of the central tendency of the values rather than scatter.

b) **True**

This is equal to the standard deviation divided by the square root of the number of values. It is a measure of how well the mean of a sample represents the mean of the population.

c)**True**

This is a measure of scatter and is equal to the square root of the variance. Two standard deviations on either side of the mean contain about 95% of the values.

d) **True**

Range is defined as the upper and a lower limit of the values.

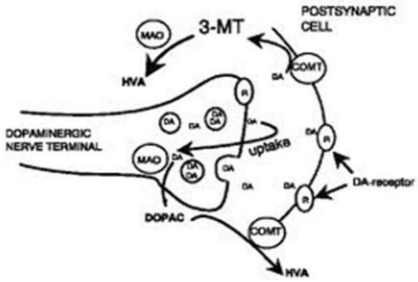
e) **False**

The p value indicates the likelihood of the observed event occurring by chance alone.

24 The following drugs are mainly eliminated from the body by hepatic metabolism

A. Isoflurane
B. Morphine
C. Atracurium
D. Suxamethonium
E. dopamine

24. F T F F F



a) **False**

Isoflurane is mainly eliminated unchanged through the lungs; only 0.2% is metabolised by the liver and excreted by the kidneys.

b) **True**

Morphine is metabolised by the liver to morphine-3-glucuronide and morphine-6-glucuronide.

c) **False**

Atracurium is metabolised by Hoffman degradation to laudanosine and a quaternary monoarylate. A small amount of metabolism is by non-specific plasma esterases to a quaternary alcohol and quaternary acid.

d)**False**

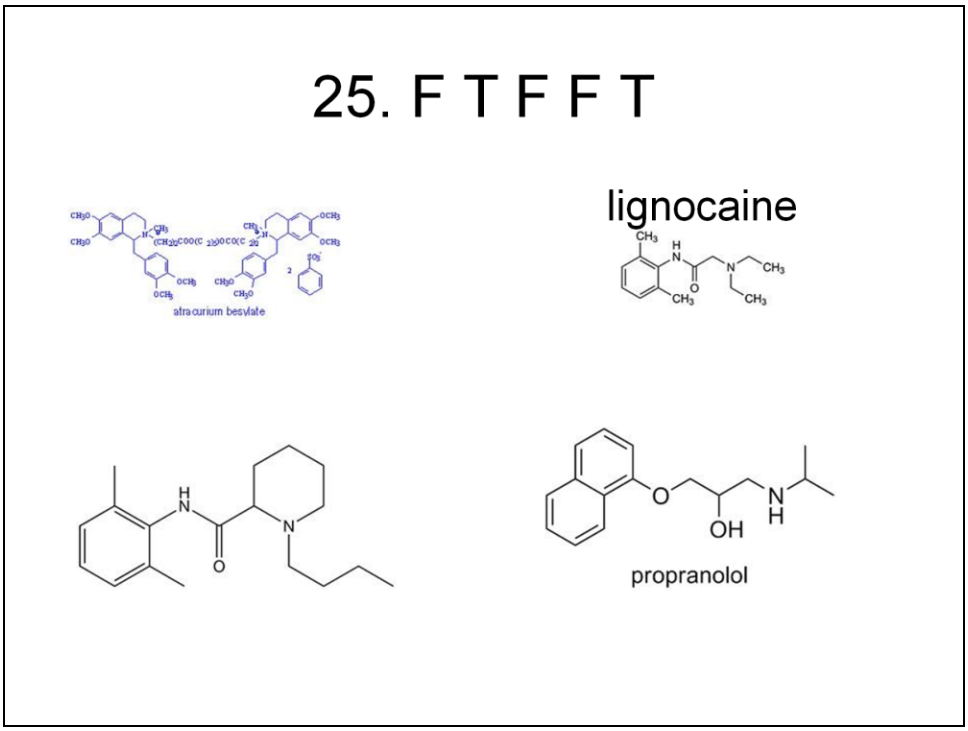
Suxamethonium is eliminated by plasma cholinesterase to succinic acid and choline.

e) **False**

Dopamine is metabolised by dopamine ß-hydroylase, catechol-O-methyltransferase and monoamine oxidase in the liver, kidneys and plasma.

25 The following drugs readily cross the placenta

A. Atracurium
B. Lidocaine
C. Bupivacaine
D. Neostigmine
E. Propranolol



a) **False**

Non-depolarising neuromuscular blocking agents are large polar molecules which do not cross the placenta.

b) **True**

Lidocaine has low plasma protein binding and relatively low ionisation at physiological pH. It also has high lipid solubility and for these reasons readily crosses the placenta.

c) **False**

Bupivacaine is less able to cross the placenta than lidocaine as its pKa makes it more ionised at maternal plasma pH.

d) **False**

Neostigmine has a low volume of distribution and does not cross the blood-brain barrier or placenta because it is highly ionised.

e) **True**

Propranolol is a lipophilic ß-blocker which causes neonatal growth retardation, respiratory depression, bradycardia and hypoglycaemia.

26 The following factors encourage passage of a substance across the cell membrane

A. high lipid solubility
B. low concentration gradient
C. high molecular weight
D. negative hydrostatic pressure
E. high degree of ionisation

26. T F F F F

- The rate of tranfer across a membrane is inversely proportional to the square root of molecular size GRAHAM'S LAW
- The rate of transfer across a membrane is proportional to the concentration gradient FICK'S LAW

a) **True**

Increasing lipid solubility increases the rate of passage of a drug across the cell membrane.

b) **False**

A high concentration gradient encourages drug passage across the cell membrane. Fick's Law states that the rate of transfer across a membrane is proportional to the concentration gradient across the membrane.

c) **False**

The smaller the molecule, the quicker it will diffuse across a membrane. Graham's Law states that the rate of diffusion is inversely proportional to the square root of molecular size.

d) **False**

This will not encourage passage across the cell membrane

e) **False**

Only unionised drug can pass through the cell membrane.

27 The following have an elimination half-life of greater than 24 hours

A. Diazepam
B. Midazolam
C. Methadone
D. Gelofusine
E. hydroxyethyl starch

27. T F T F T

a) **True**

Diazepam is metabolised in the liver by oxidation to active metabolites, including oxazepam and temazepam. The glucuronide derivatives are excreted by the kidney with an elimination half-life of 20-70 hours.

b)**False**

Excretion is by the kidney with an elimination half-life of 1.5-3.5 hours.

c) **True**

Methadone has a long half-life, which makes it suitable for oral administration in the weaning of patients addicted to intravenous opioids.

d) **False**

Gelofusine has a plasma half-life of 2-4 hours and the bulk of its excretion by the kidney occurs within 24 hours.

e) true

Only 40% of hydroxyethyl starch is excreted within 24 hours

28 The following may be used in the treatment of digoxin toxicity

A. Propranolol
B. Lidocaine
C. Phenytoin
D. Calcium
E. Potassium

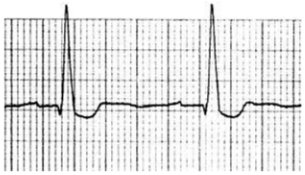
A. Propranolol can be used digoxin toxicity if the manifestation is tachycardia or ventricular extrasystole. However, it is contraindicated if the manifestation is AV block

B. And C. Lignocaine and Phenytoin are the more commonly used agent if the manifestation is arrthythmia

D. Calcium exacerbates digoxin toxicity.

Potassium is used to treat hypokalemia which precipitates digoxin toxicity

28. TT T F T

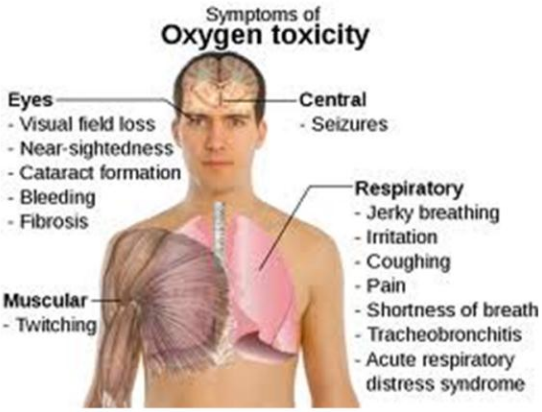



DIN 02146967
10 mg
Digibind
fragments d'anticorps spécifiques de la digoxine [Fab (ovins)] pour injection
STÉRILE
POUR USAGE I.V. SEULEMENT

29 Toxicity from hyperbaric oxygen therapy can cause

A. painful joints
B. pulmonary oedema
C. acute tubular necrosis
D. Convulsions
E. bradycardia

29. F T F T F



a) **False**

Joint pains are due to decompression sickness (the bends) caused by the release of bubbles of inert gases in divers returning to the surface. They may be experienced by the tender in a compression chamber who is breathing air, but not the patient who is breathing oxygen.

b) **True**

Oxygen toxicity mainly affects the lung, the central nervous system and the eye. It may cause atelectasis, endothelial cell damage and pulmonary oedema.

c) **False**

d) **True**

Convulsions occur in approximately 1 in 10,000 exposures.

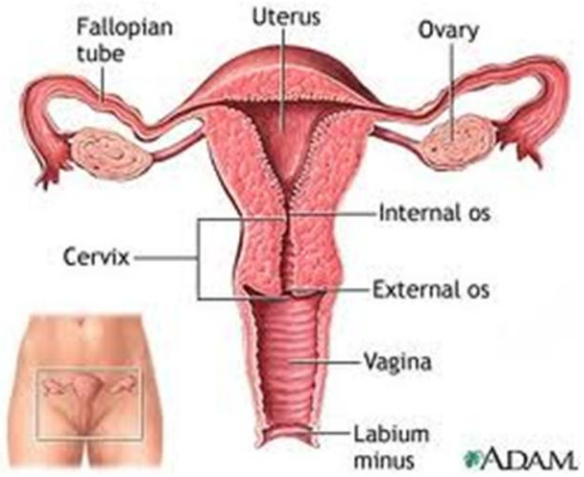
e)**False**

Bradycardia is not seen with oxygen toxicity, although heart rate and cardiac output may be decreased.

30 Uterine tone is

A. increased by ketamine
B. decreased by halothane
C. increased by beta-2 antagonists
D. unaffected by suxamethonium
E. decreased by nifedipine

30. T T T T T



a) **True**

Ketamine increases uterine tone.

b) **True**

Halothane decreases uterine tone.

c) **True**

Stimulation of beta-2 receptors causes decreased uterine tone.
[Although Sasada & Smith says that propranolol *decreases* utrerine tone]

d) **True**

e) **True**

Uterine activity is decreased by the drug.