

Written Q

1. Enumerate properties of pain receptors ?
2. Def pain threshold?
3. Mention mechanism of stimulation of pain receptor?
4. Compare () fast pricking and slow burning pain ?
5. Effect and mechanism of tissue injury on the surrounding tissue
6. Compare () primary and secondary hyperalgesia ?
7. Mention dual pathway of visceral pain?
8. Def and mechanism of referred pain ?
9. Enumerate characters of neuropathic pain ?
10. Def endogenous opioid ?
11. Mention role of raphe magnus nucleus in pain perception ? مهم
12. Mention mechanism of pain control at level of spinal cord?

MCQ CNS 3,4

<p>1. Pain receptors in skin are typically classified as which of the following?</p> <ul style="list-style-type: none">a) Encapsulated nerve endingsb) Single class of morphologically specialized receptorsc) Same types of receptors that detect positiond) Free nerve endingse) Multi branched nerve endings	D
<p>2. Deep pain is:</p> <ul style="list-style-type: none">a) Carried by A-delta afferentb) Well localizedc) Carried by C fibersd) Associated with increased heart ratee) Associated with increased blood pressure	C
<p>3. Which of the following substances enhances the sensitivity of pain receptors but not directly excite them?</p> <ul style="list-style-type: none">a) Bradykininb) Serotoninc) Potassium ionsd) Prostaglandinse) Lactic acid	D
<p>4. Which of the following is a group of neurons in pain suppression pathway that utilizes enkephalin as a neurotransmitter?</p> <ul style="list-style-type: none">a) Post central gyrusb) Nucleus raphe magnusc) Periaqueductal gray aread) Type AB sensory fiberse) Locus cerileus	C

<p>5. Fast pricking type of pain:</p> <ul style="list-style-type: none"> a) is poorly localized b) Is transmitted along C fibers c) Has rapid onset and short duration d) Its chemical transmitter is substance P e) Terminates in reticular formation of brain stem 	C
<p>6. Stimulation of which brain areas can modulate the sensation of pain?</p> <ul style="list-style-type: none"> a) Superior olivary complex. b) Caudate nucleus. c) Periaqueductal gray area. d) Amygdala. e) Red nucleus. 	C
<p>7. Regarding referred pain:</p> <ul style="list-style-type: none"> a) it is a character of deep pain. b) can be obtained by reverberating circuit c) occurs to right shoulder in cardiac pain. d) is a character of cutaneous pain. e) can be explained by convergence projection mechanism 	E
<p>8. Pain sensation can be inhibited by stimulation of:</p> <ul style="list-style-type: none"> a) A-beta nerve fibers. b) A-delta temperature fibers c) Gracil nucleus. d) Ventral posterior thalamic nuclei. e) Only A and D are correct. 	A
<p>9. About hyperalgesia:</p> <ul style="list-style-type: none"> a) It occurs only in association with cutaneous pain. b) Primary hyperalgesia is due to a lesion in the C.N.S. c) Secondary hyperalgesia occurs in an inflamed skin area. 	E

<p>d) <i>The pain threshold is lowered in secondary hyperalgesia.</i></p> <p>e) <i>The pain threshold is lowered in primary hyperalgesia.</i></p>	
<p>10. About stimulation of pain receptors in hollow viscera, which of the following is not true?</p> <p>a) <i>They are often stimulated as a result of ischaemia.</i></p> <p>b) <i>They may be stimulated by cutting through the wall with a sharp scalpel.</i></p> <p>c) <i>They may be stimulated by distension of the viscera.</i></p> <p>d) <i>Inflammation of the visceral wall often stimulates them.</i></p> <p>e) <i>They may be stimulated when strong rhythmic contractions occur in the wall of an obstructed viscus</i></p>	B
<p>11. Primary cutaneous hyperalgesia:</p> <p>a) <i>Develops in the normal skin region around the area of flare.</i></p> <p>b) <i>Is an abnormal condition in the skin in which painful stimuli become more sever</i></p> <p>c) <i>it is due to changes in threshold of pain receptors.</i></p> <p>d) <i>Is associated with throbbing type of pain.</i></p>	C

Other MCQ

<p>12. Which of the following is an important functional parameter of pain receptors?</p> <ul style="list-style-type: none">a) Exhibit little or no adaptationb) Not affected by muscle tensionc) Signal only flexion at joint capsulesd) Can voluntarily be inhibited	A
<p>13. Pain sensation:</p> <ul style="list-style-type: none">a) is evoked by strong stimulation of specific receptorsb) produces reaction that block transmission of pain impulsesc) Arises from small encapsulated receptorsd) Occurs when the stimulus causes damage of the sensory receptors	A
<p>14. Reaction to pain includes all the following, except:</p> <ul style="list-style-type: none">a) increased heart rateb) Depressionc) Withdrawal reflexesd) Depressed transmission of pain impulses along sensory pain fibers	D
<p>15. Pain receptors:</p> <ul style="list-style-type: none">a) become more sensitive with prolonged stimulationb) are stimulated by prostaglandinsc) are more numerous in viscera than other tissuesd) include different morphological types	A
<p>16. Pain threshold:</p> <ul style="list-style-type: none">a) is the highest intensity of stimulus that causes painb) is the lowest intensity of stimulus that causes painc) differs markedly among different individualsd) is elevated by substance P	B

<p>17. Fast pain differs from slow pain in:</p> <ul style="list-style-type: none"> a) being transmitted in the dorsal column pathway b) evoking a depressor autonomic reaction c) having a sharp quality d) arising from encapsulated pain receptors 	C
<p>18. Double pain sensation that is occasionally felt following painful stimulation of the skin is due to:</p> <ul style="list-style-type: none"> a) repetition of the painful stimulus b) presence of dual pain pathways c) perception of pain at two sites . d) application of two painful different stimuli simultaneously at two different sites 	B
<p>19. Deep pain shows the following characteristics except:</p> <ul style="list-style-type: none"> a) Dull aching b) Throbbing c) Evokes flexor reflexes d) Diffuse 	C
<p>20. Pain produced by spasm results from:</p> <ul style="list-style-type: none"> a) Mechanical stimulation of pain receptor by muscle spasm b) Decreased release of lactic acid from the spastic muscle fibers c) Release of compounds from the spastic muscle which increase the threshold for stimulation of pain receptor d) Decrease oxygen supply to the muscle 	D
<p>21. Visceral pain:</p> <ul style="list-style-type: none"> a) is more common than the other types of pain b) arises only from wall of the visceral organs c) is often wall localized d) evokes depressor autonomic reactions 	D

<p>22. Stimuli which evoke true visceral pain include all the following except:</p> <ul style="list-style-type: none"> a) sharp cutting b) stretching c) spasm d) chemical irritation 	A
<p>23. Visceral pain is usually felt:</p> <ul style="list-style-type: none"> a) Deeply in the diseased viscera b) in deep tissues close to the diseased viscera c) in skin areas that just overlie the diseased viscera d) In skin areas remote from the diseased viscera 	D
<p>24. Transmitters in pain control system include all following except:</p> <ul style="list-style-type: none"> a) Serotonin b) Acetylcholine c) Enkephalin d) Norepinephrine 	B
<p>25. Enkephalin binds best with:</p> <ul style="list-style-type: none"> a) Delta opiate receptors b) Mu opiate receptors c) Kappa opiate receptors d) all opiate receptors with equal affinity 	A
<p>26. Pain control system:</p> <ul style="list-style-type: none"> a) Is activated whenever a painful stimulus is applied to body tissues b) Is never activated naturally c) Is activated only by administration of opiate drugs d) Is activated naturally with strong emotional excitement 	D
<p>27. The spinal pain gate is:</p> <ul style="list-style-type: none"> a) Ligand controlled b) Voltage controlled 	A

<p>c) Opened by enkephalin d) Closed by substance</p>	
<p>28. Enkephalin releasing neurons are found in all the following sites except:</p> <p>a) Dorsal horns of spinal cord. b) Spinal trigeminal nucleus c) Cerebellum. d) Periaqueductal gray region (PAG) of the midbrain e) Raphe nuclei</p>	C
<p>29. Pain from the stomach is referred to which area of the body?</p> <p>a) Upper right shoulder area b) Abdominal area above the umbilicus c) Proximal area of the anterior and inner thigh d) Abdominal area below the umbilicus</p>	B
<p>30. Which one of the following statements concerning visceral pain signals is correct?</p> <p>a) They are transmitted along sensory fibers that course mainly with Sympathetic nerves in the abdomen and thorax b) They are not stimulated by ischemia in visceral organs c) Are transmitted only by lightly myelinated type Aδ sensory fibers d) They are typically well localized</p>	A
<p>31. 32- year - old female experienced the sudden on severe cramping pain in the abdominal region. She also becomes nauseated. Visceral pain</p> <p>a) Shows relatively rapid adaptation. b) Is mediated by B fibers in the dorsal roots of the Spinal nerves. c) Is poorly localized. d) Resembles "fast pain" produced by noxious stimulation of the skin. e) Causes relaxation of nearby skeletal muscles</p>	C

<p>32. The visceral pain receptors:</p> <ul style="list-style-type: none"> a) Are more abundant than the cutaneous pain receptors b) Are rapidly adapting receptors c) May discharge in somatic nerves d) Initiate pain that reaches the cerebral cortex via the gracile and cuneate tracts e) Discharge impulses in thick afferent myelinated nerve fibers 	C
<p>33. About the fast cutaneous pain all the following is true except:</p> <ul style="list-style-type: none"> a) It is conducted along A delta nerve fibers b) It is sharp and localized pricking pain that never radiates c) initiates the protective withdrawal reflex d) It is rapidly abolished by local anesthetic drugs e) It is transmitted to cerebral cortex via the lateral spinothalamic tract 	D
<p>34. About referred pain all the following is true except:</p> <ul style="list-style-type: none"> a) It occurs as a result of migration of organs during development b) It is explained by the convergence projection theory c) It always accompanies cutaneous pain. d) It is a major manifestation of visceral pain. e) It is felt in the somatic structure (or dermatome innervated by the same dorsal root that innervates the diseased viscous 	C
<p>35. Which of the following is the basis for referred pain?</p> <ul style="list-style-type: none"> a) Visceral pain Signals and pain signals from the skin synapse with separate populations of neurons in the dorsal horn b) Visceral pain transmission and pain transmission from the skin is received by a common set of neurons in the thalamus c) Visceral pain signals are rarely of sufficient magnitude to exceed the threshold of activation of dorsal horn neurons d) Some visceral pain signals and pain signals from the skin provide 	D

Convergent input to a common set of neurons in the dorsal horn	
<p>36. Stimulation of which brain area can modulate the sensation of pain?</p> <p>a) Superior livery complex b) Locus cerulean c) Periaqueductal gray d) Amygdala</p>	C
<p>37. Which of the following is a type of interneuron in this region that Utilizes enkephalin to inhibit pain transmission?</p> <p>a) Nucleus raphe Magnus b) Post central gyros c) Dorsal horn of spinal cord</p>	C
<p>38. Neurons located in which of the following release serotonin:</p> <p>a) Periaqueductal gray area b) Interneurons of the spinal cord c) Periventricular area d) Nucleus raphe Magnus</p>	D
<p>39. Inhibition of pain signals by tactile stimulation of a skin surface involves which of the following selections?</p> <p>a) Type A alpha fibers in peripheral nerves b) Type A beta fibers in peripheral nerves c) Type A delta fibers in peripheral nerves d) Type C fibers in peripheral nerves</p>	B
<p>40. Referred pain:</p> <p>a) can be explained by convergence projection mechanism. b) is felt at left shoulder in gall bladder disease. c) can be explained by post-tetanic fasciculation. d) can be explained by parallel circuit. e) a & d are correct.</p>	A

<p>41. Fast pricking type of cutaneous pain is:</p> <ul style="list-style-type: none"> a) carried by C fibers. b) carried by A-beta fibers. c) poorly localized. d) carried by A-delta fibers. e) terminating in thalamus. 	D
<p>42. Pain sensation can be inhibited by stimulation of:</p> <ul style="list-style-type: none"> a) A-beta touch fibers. b) A-delta temperature fibers. c) Raphe nucleus. d) Gracile nucleus. e) only a & c are correct. 	E
<p>43. Supraspinal pain control system involves:</p> <ul style="list-style-type: none"> a) presynaptic inhibition by interneurons in spinal cord. b) postsynaptic inhibition by interneurons in spinal cord. c) inhibition of pain by collaterals from touch fibers. d) inhibition of pain by collaterals from cold fibers. e) inhibition of area II. 	A
<p>44. It is correct to say that:</p> <ul style="list-style-type: none"> a) primary hyperalgesia is due to facilitation along the pathway. b) fast cutaneous pain is carried by C-fibers. c) slow cutaneous pain terminates in sensory cortex. d) slow cutaneous pain terminates in thalamus. e) secondary hyperalgesia is due to hypersensitivity of receptors. 	D

<p>45. Primary hyperalgesia is due to:</p> <ul style="list-style-type: none"> a) convergence. b) facilitation along the pathway. c) reverberating circuits. d) convergence projection mechanism. e) hypersensitivity of receptors. 	E
<p>46. The neuro transmitter released from middle raphe nuclei is:</p> <ul style="list-style-type: none"> A. Enkephalin B. Serotonin C. Substance P D. Glycine 	B
<p>47. Nociceptors:</p> <ul style="list-style-type: none"> A. are activated by strong pressure, severe cold, severe heat, and chemicals. B. are absent in visceral organs. C. are specialized structures located in the skin and joints. D. are innervated by group II afferents. E. are involved in acute but not chronic pain. 	A
<p>48. Pain receptors:</p> <ul style="list-style-type: none"> A. are phasic receptors B. become more sensitive with prolonged stimulation C. are more numerous in viscera than other tissues D. include different morphological types E. all of the above. 	B
<p>49. Visceral pain:</p> <ul style="list-style-type: none"> a) Carried by A-delta afferent. b) Caused mainly by ischemia. c) Mainly pricking in character. 	B

<p>d) Carried in ventral spinothalamic tract.</p> <p>e) None of the above.</p>	
<p>50. Which disorder is characterized by excessive pain in a skin dermatomal distribution resulting from a viral infection of a dorsal root ganglion?</p> <p>a) Tic douloureux.</p> <p>b) Thalamic pain syndrome.</p> <p>c) Brown-sequard syndrome.</p> <p>d) Herpes zoster.</p> <p>e) Tabes dorsalis.</p>	D
<p>51. Stimulation by touching or pulling on which of the following structures is least likely to cause a painful sensation?</p> <p>A. The postcentral gyrus.</p> <p>B. The dura overlying the postcentral gyrus.</p> <p>C. Branches of the middle meningeal artery that lie superficial to the dura over the postcentral gyrus.</p> <p>D. Branches of the middle cerebral artery that supply the postcentral gyrus.</p> <p>E. Tentorium cerebella.</p>	A

Question on (Sensory cortex)

<p>1. Which of the following body parts is represented superiorly and medially within the postcentral gyrus?</p> <p>a) Upper limb. B) Lower limb. c) Abdomen. D) Genitalia. e) Thorax.</p>	B
<p>2. Somatic sensory area 1 of cerebral cortex:</p> <p>a) Receives fast pain sensation. b) Is present in frontal lobe. c) Receives visual sensation. d) Receives sensations from same side of the body. e) Responsible for planning of motor movements.</p>	A
<p>3. Within the primary somatosensory cortex, the various parts of the contralateral body surface are represented in areas of varying size that reflect which of the following?</p> <p>a) The relative size of the body parts. b) The density of the specialized peripheral receptors. c) The size of the muscles in that body part. d) The conduction velocity of the primary afferent fibers. e) The type of neurotransmitter released.</p>	B

Where is the primary somatosensory cortex located?

- A) Frontal lobe
- B) Temporal lobe
- C) Parietal lobe
- D) Occipital lobe

Answer: C) Parietal lobe

Asterognosis can be a result of lesions in which area of the brain?

- A) Primary visual cortex
- B) Primary auditory cortex
- C) Somatosensory association area
- D) Motor cortex

Answer: C) Somatosensory association area

What is a primary characteristic of parietal lobe neglect?

- A) Inability to recognize faces
- B) Inability to perceive stimuli on one side of the body
- C) Loss of memory for past events
- D) Difficulty in producing speech

Answer: B) Inability to perceive stimuli on one side of the body

What is the primary function of the sensory association areas in the brain?

- A) To process basic sensory inputs
- B) To integrate and interpret sensory information
- C) To generate motor responses
- D) To regulate autonomic functions

Answer: B) To integrate and interpret sensory information