PAIN

The definition of pain, according to the World Health Organization is:

1. Intensive sensation, obsessing attention
2. An alarm reaction of the organism (reflecting abnormality)
3. **Unpleasant sensory or emotional experience associated with actual or potential tissue damage.**
4. Defensive sensation, alarming for an iminent danger.
5. Physiological reaction of the CNS to unpleasant external or internal influences.

What is nociception?

1. Subjective stress sensation
2. **Recieving, transmitting and processing of information for tissue damage.**
3. A type of vegetative dystonia.
4. A teaching for the mechanisms of cellular and tissue damage.
5. A teaching for sanogenesis.

The (presence of) pain is:

1. A mandatory symptom of every disease.
2. A subconscious neuroemotional reaction.
3. Unpleasant psychic self-detachment from reality.
4. A somatic-independent psychoemotional affect.
5. **A signal for actual or potential tissue damage.**

From a physiological perspective pain is:

1. **A sensory modality, characterizing the negative effect of the noxious factor, rather than its characteristics.**
2. Multilevel complex reaction of the CNS
3. Alteration in consciousness.
4. Sensation, characterizing precisely the qualities of the noxious stimulus.
5. 1, 2.
6. 1, 3, 4.

The pathogenesis of pain comprise the following mechanisms:

1. Noxious stimulus and reception
2. Transmission and modulation of pain impulses
3. Comprehension - sensation and emotion.
4. Reaction (anti-pain behaviour).
5. 1, 3, 4.
6. **1, 2, 3, 4.**

Which of the following are nociceptors:

1. Pacini bodies.
2. Golgi tendon organs.

3. Ergoreceptors.
4. **Free nerve endings.**
5. Ruffini-Crause receptors.

Nociceptors are characterized by:

1. **High sensitive threshold.**
2. Post-stimulus sensitization.
3. Adaptation (to the noxious stimulus).
4. 1, 3.
5. 1, 2, 3.

Regarding the mechanism of excitation, nociceptors are classified as:

1. **Mono- and poly-modal.**
2. Mechano- and chemo-nociceptors.
3. Extero-, proprio- and entero-nociceptors.
4. Stable and unstable.
5. Hypo- and hyperalgic.

Which of the following neurotransmitters and neuromodulators are noxious stimuli?

1. Dinorphins, enkephalins, endorphins.
2. Urea, creatinin, xanthoproteins.
3. Glycin, GABA.
4. **Bradykinin, histamin, substance P.**
5. Glucose, non-esterified fatty acids.

Nociceptive pain is characterized by:

1. Results from irritation of superficial nociceptors.
2. Is transmitted via Aδ fibers and the neospinothalamic tract.
3. Is felt as a localized sensation.
4. Is accompanied by distinct emotional component and sadness or fury.
5. **1, 2, 3.**
6. 1, 2, 3, 4.

Which of the following (metabolites) are noxious stimuli:

1. Urea, creatinin, uric acid.
2. **Lactate, K^+, H^+.**
3. Branched-chain amino acids.
4. Short and medium-chain fatty acids.
5. All of the above.

Neuropathic pain is characterized by:

1. Engagement of polymodal visceral nociceptors.
2. Transmission via non-myelinated C fibers and the paleospinorethiculothalamic tract.
3. Diffuse character and emotional and vegetative reactions.

4. Is a protective mechanism
5. **1, 2, 3.**
6. 1, 2, 3, 4.

The CNS interneurons with analgetic effect release:

1. Acetylcholine, substance P.
2. **Opioid endogenic peptides - endorphins, enkephalins.**
3. Adrenalin, noradrenalin, dopamin.
4. Serotonin, calcitonin, somatostatin.
5. Glutamate, aspartate, adenosine.

Causalgia is:

1. Severe torturing neuropathic pain in the dermatome area of a certain nerve.
2. A consequence of nerve damage (contusion, severance).
3. Axon-reflex associated with vegetative skin signs - atrophy, pigmentation, hyperemia.
4. Pain, always accompanied by local seizures.
5. **1, 2, 3.**
6. 1, 2, 3, 4.

The opioid neuropeptides exert their analgetic effect in the CNS via:

1. α1 and α2 receptors.
2. A1 and A2 receptors.
3. **μ, κ- and δ- receptors.**
4. β1 and β2 receptors
5. M and H cholinergic receptors.

Hyperalgesia is:

1. Comprehension of non-noxous stimuli as noxious.
2. **Increased nociceptive sensitivity to noxious stimuli.**
3. Faster conduction of noxious stimuli to the CNS.
4. Explosive generation of tissue noxious stimuli.
5. Decreased conductivity of the noxious impulses to the CNS.

Pain comprehension includes:

1. Localization and characterizing of the pain sensation.
2. Assessment of the positive and negative effects of pain.
3. The necessity of targeted and adequate behaviour.
4. 2, 3.
5. **1, 2, 3.**

The "pain gate" in the posterior horns of the spinal cord "opens" in response to:

1. Afferent signals from A(α) and A(β) fibres.
2. Descending serotoninergic impulses.
3. **Stable nociceptive afferent stimulation from A(δ) or C fibers.**

4. T-neuron positive feedback mechanism.
5. Afferent signals from μ- and κ- receptors.

Reflected pain is related to:

1. The dermatome rule - the skin-visceral branches of the afferent nerve.
2. γ-slef-control of the afferent activity.
3. Cortico-visceral reflex mechanism.
4. Skin- visceral convergation of impulses on a single neuron.
5. **1, 4.**
6. 2, 3, 4.

The pain present with damaged tracts for transmission of the nociceptive information is classified as:

1. Nociceptive.
2. Psychogenic.
3. **Neuropathic.**
4. Idiopatic.
5. Alodynic.