Role Of Radiofrequency In Chronic Pain Management

Essay submitted
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Summary

Mechanical, chemical, or thermal nociceptive stimulation will recruit peripheral nociceptors that conduct the signal to the dorsal horn of the spinal cord. the primary neuron will make a synaptic contact with the secondary or projection neuron. Secondary neurons form the spinothalamic (lateral) and spinoreticular (medial) tracts will immediately cross in the spinal cord and send afferent projections to higher centers. A large proportion of afferents will make a second synapse in the lateral and medial nuclei of the thalamus, may also synapse with neurons in different nuclei of the brainstem, including the periaqueductal gray (PAG) and nucleus raphe magnus (NRM), areas involved in descending endogenous pain modulation. tertiary neurons from the thalamus send afferents to the primary and secondary somatosensory cortices (SI, SII).

Radiofrequency lesioning which is a new technique based on thermocoagulation of nerves using electrodes capable of accurate temperature generation.

Nowadays radiofrequency is used for pain control of several cases as spinal pain; which is the second most frequent pain complain. Spinal

pain may be due to facet joint pain , discogenic pain .

Also radiofrequency ablation under imaging may be used in sympathetically mediated pain, and ganglionotomy .

It's also practiced in cases of post surgical thoracic pain , chronic shoulder pain , chronic heel Pain , chronic benign pancreatitis ,trigeminal neuralgia ,post cancer surgery pain ,post amputation stump pain .

The physiologic effects of RF must be distinguished from the clinical outcome. Most patients report benefit within hours to days after the procedure. However, for others, it is difficult to obtain immediate postoperative feedback because the discomfort of the procedure may interfere with assessment. The final results also depend on the accuracy of the diagnosis, the precision with which the procedure was performed, and injection of local anesthetics during the procedure. During the follow-up visit, a focused history and physical examination should be performed to determine if the procedure has been successful. Multiple pain generators frequently are present, particularly in spinal disorders. Accordingly, each source of pain may require a separate treatment. A common postoperative presentation is a change in the

location or character of the original symptoms. This usually signifies relief of pain in one area and uncovering of symptoms in an adjacent region, which was overridden previously by the more severe pain of the treated location. Some patients also experience a brief period of postoperative discomfort, usually ١ to ٣ weeks in duration. This generally is described as an ill-defined deep ache radiating a short distance away from the site of the procedure. The data on the duration of the beneficial effects of PRFN are anecdotal and long-term prospective studies are needed. However, in general, patients tend to return for repeat treatment ٨ to ١٥ months after the initial treatment.