Stimulation of deep brain structures may ease chronic pain

Sensation and perception

Sensation is a complex, perceptual experience that is thought to originate in the sensory receptors, but distinct mechanisms emerge, which is why we perceive pain in different ways. The deep brain structures are involved in pain processing, which makes them key to understanding how the body experiences pain.

Recent studies have shown that deep brain stimulation (DBS) of the ventral intermediate nucleus of the thalamus can provide significant relief from chronic pain by interfering with pain processing.

DBS works by stimulating the thalamus, a structure located in the center of the brain that helps regulate pain signals. By stimulating the thalamus, DBS can alter the way the brain processes pain signals, leading to a reduction in perceived pain.

The procedure involves the placement of electrodes in the thalamus, which are connected to a small device that delivers electrical impulses. These impulses can alter the way the thalamus processes pain signals, leading to a reduction in perceived pain.

This approach is promising for chronic pain management, especially for patients who have not responded to traditional medical treatments.

However, while DBS is effective for some patients, it is not a cure-all for chronic pain. It requires a significant commitment from both the patient and medical team, and it is not appropriate for everyone.