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## Introduction

Chronic pain is a complex phenomenon that involves multiple pathways and mechanisms. Morphine, a potent analgesic, is commonly used for pain management. However, its use is associated with various side effects, including respiratory depression and constipation. Dexamethasone, a corticosteroid, has been shown to have analgesic properties and may be used as an adjunct to morphine. The aim of this study was to investigate the pharmacokinetics of morphine and dexamethasone in the cerebrospinal fluid (CSF) of patients with chronic pain.

## Understanding chronic pain

Chronic pain is a complex phenomenon that involves multiple pathways and mechanisms. It is characterized by persistent or recurrent pain that lasts for more than 12 weeks. The pathophysiology of chronic pain is not fully understood, but it is thought to involve changes in the central nervous system, including neuroplasticity and the development of a pain memory. This leads to a state of hyperalgesia, where the pain response is exaggerated and prolonged.

## Pharmacological intervention

Pharmacological intervention is a key component of chronic pain management. Morphine is a potent analgesic that acts on the mu-opioid receptors in the brain and spinal cord. It is effective for the relief of moderate to severe pain. However, its use is associated with various side effects, including respiratory depression, constipation, and dependence. Non-steroidal anti-inflammatory drugs (NSAIDs), such as dexamethasone, are also used for pain management. They work by inhibiting the production of prostaglandins, which are mediators of inflammation and pain.

## Targeted therapy

Advanced targeted therapies, such as selective serotonin-norepinephrine reuptake inhibitors (SNRIs), are also used in the management of chronic pain. These drugs work by increasing the levels of serotonin and norepinephrine in the brain, which helps to modulate pain signals. The combination of morphine, dexamethasone, and SNRIs may provide a more effective and safer approach to chronic pain management.

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