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Clinical Dimensions Of Neuraxial Drug Therapy
Essay

Submitted in Partial Fulfillment of Master Degree of
Algesiology

By

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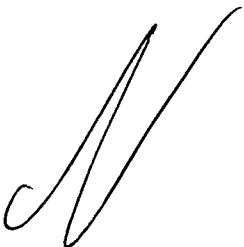
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List of Figures and Tables

Figures and Tables

Anatomy Related to Neuraxial Therapy:

Fig(1) :Ligaments of the Spinal Column.	9
Fig(2) :The spinal cord.	11
Fig(3) :Arterial Supply of the Spinal cord.	13
Fig(4) :Segmental arterial blood Supply.	14
Fig(5) :Exit of the spinal nerves.	18

Physiology Related to Neuraxial Therapy:

Fig(6) :The gray mater of the spinal cord.	23
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Neuraxial Opioids :

Fig(7) :Binding of an opioid compound to an opioid receptor.	29
Fig(8) :Spread of opioid in CSF	33
Tab(1) :Relative octanol water coefficient (compared to morphine).	34
Fig(9) :Pharmacokinetic model: Epidural injection of a hydrophilic opioid.	35
Tab(2) :Relative potency and starting intrathecal doses of common used Opioids.	42

Neuraxial Non –Opioid Agents:

Tab(3) :Points for successful Intrathecal availability.	52
Fig(10) :Alpha-2 Adrenergic agonists. (Clonidine):	54
Fig(11) :NMDA Antagonists .	58
Fig(12) :Neostigmine (Acetylcholine esterase inhibitors).	60
Fig(13) :SNX -111.	63
Fig(14) :The Prostaglandin synthesis inhibitors (NSAIDs).	70
Fig(15) :Cell-Matrix.	73

Implantation Devices and Techniques:

Tab(4) :Intraspinal drug delivery systems.	82
Fig(16) :Medtronic Synchronized Programmable, Implantable Pump.	85
Fig(17) :ISOMED, Medtronic Constant Infusion Implantable Pump.	86
Tab(6) :Epidural Space-Intrathecal space.	86
Tab(5) :Medtronic Synchromid Programmable Pump.	88
Fig(18) :Implantation of the epidural portal system.	91
Fig(19) :Algomed Implantable patient-Activated device.	93
Fig(20) :Intrathecal Pump Implantation.	99

Introduction

On-going pain can destroy on quality of life, limitations imposed by living with chronic pain may mean that a activities such as work and hobbies, even little things that once brought satisfaction pleasure, and self-esteem may only be memories. Regaining quality of life is one of the goals of physicians who attempt to treat chronic pain. Pain signals go from the site of injury, through the spinal cord to the brain where the signal is encoded as "pain" then the brain sends the interpreted signal back through the spinal cord to the site of injury. When that signal is blocked or scrambled the message is not received as "pain" at the injury site. Oral opiate medications as a treatment work for some people by altering the message send to and from the brain. For others, doses enough to relieve pain, may result in confusion grogginess, over sedation, and other side effects. When attempts to increase quality of life and to manage pain with medication is unsatisfactory, the physician may recommend intrathecal pain therapy. This may be effective for pain that is caused by certain condition, including failed back syndrome, arachnoiditis, osteoporosis and cancer multiple systems of intrathecal medication delivery one currently available for clinical use.

Development of new technologies and new therapeutic agents will make chemical neuromodulation a more established means of pain management possibly decreasing the need for neurodestructive procedures in the future. Intrathecal pumps are mechanical devices used to deliver medications directly into the area of the spinal cord. These devices consist of a computerized pump, a reservoir and a catheter. The reservoir can be filled with various medications including opioids and

reservoir can be filled with various medications including opioids and non opioid agents like (clonidine, baclofen, bupivacaine and ziconatide etc.). The medications are used at much lower concentrations than necessary for systemic absorption and side effects are generally lower. Studies have been done with intrathecal opioids that show less side effects than oral medication. Drowsiness is improved, as is nausea and constipation. Improvement in pain control is particularly effective with multiple medications aimed at different parts of the pain control system. Additionally these pumps can improve compliance with patients who have trouble regulating their oral medications due to addiction or pseudo addiction.

The aim of this essay is to discuss the anatomy, physiology; pharmacology related to neuraxial drug therapy, indications, contraindications, techniques and complications of intrathecal delivery systems will also be covered.