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Sympathetic Ganglion Block

Essay

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Summary

Sympathetically mediated pain seems to be involved in several pain conditions as:

- Complex regional pain syndrome (CRPS)
- Visceral pain due to abdominal and pelvic cancers
- Ischaemic pain or tissue viability from peripheral vascular
- Disease, arterial spasm or frostbite
- Ischaemic heart disease
- Post-herpetic neuralgia, etc...

The block of the sympathetic ganglion can produce pain relief at the relevant vertebral level or used in many other therapeutic indications.

Stellate ganglion block: it has many indications such as:

CRPS type 1 or 2, vascular insufficiency, sudden hearing loss, post herpetic neuralgia of the face, etc…

It has various techniques using ultrasoun, MRI or fluoroscope or the classic blind anterior approach technique.

Complications include injury to the trachea, esophagus or brachial plexus, also infection and local anesthetic toxicity complications.

Celiac plexus block: it's indication includes diagnostic and prognostic purposes for pain of the upper abdomen.

- It has many approaches including:

- *The anterior approaches*; Intraoperative Celiac Neurolysis, Percutaneous anterior Celiac Neurolysis.

List of Abbreviations

CRPS	:	Complex regional pain syndrome.
MRI	:	Magnetic resonant imaging.
ECG	:	Electro-cardio gram.

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Mohammed Osama Mahmoud Elgouhary

Introduction

Sympathetic mediated pain seems to be involved in several pain conditions for which sympathetic blockade techniques are done. Stellate ganglion block and lumbar sympathectomy are performed for upper and lower limb sympathetic blockade, respectively. Coeliac plexus block interrupts the visceral sympathetic and afferent nerve supply to various abdominal viscera, and can be very useful for pancreatic and gastric cancer pains. **(Baron, 2006)**

Sympathetic blocks in the cervical and upper thoracic region are commonly used techniques for a variety of diagnostic, therapeutic and prognostic purposes. **(Elias, 2000)**

Stellate ganglion block (SGB) is a type of sympathetic blockade technique frequently used for a variety of therapeutic, diagnostic, and prognostic purposes, including vascular insufficiency and pain syndromes of the face, neck, and upper extremities. It has also been shown to be efficacious for reducing delayed ischemic neurologic deficits caused by the contraction of brain vessels after an aneurysmal subarachnoid hemorrhage, for ocular diseases caused by the acute reduction of blood flow to the eye; and for hot flashes caused by paraneoplastic syndrome and other hormonal imbalances **(Elias, 2000)**

Celiac plexus block (CPB) has been used in the management of pancreatic pain since it was first described by Kappis in 1914 (**Schmulewitz N Endoscopy 2003)**

Aim of the Work

The purpose of this essay is to preview the various indications of sympathetic ganglion blockade, the techniques used, and the documented complications resulted by different techniques.

Indications of Sympathetic Ganglion Block

Pain is defined as an unpleasant sensory and emotional experience associate with actual or potential tissue damage **(Mersky, 2003).**

Chronic and intermittent pain comes in a variety of forms, most commonly joint pain, headaches, and back pain, and it may be triggered by a large number of diseases, conditions, and states, including arthritis, infections, cancer, trigeminal neuralgia There is also the aching, burning pain of Central Pain Syndrome, which may develop after one has suffered a stroke or brain or spinal cord injury (**Tollison**, **1998**). Here are some estimates of the numbers of people suffering from some of the more common forms of pain:

Arthritis-According to the ***National Institute of Arthritis and Musculoskeletal and Skin Diseases,*** some 40 million Americans are afflicted by arthritis, "and many have chronic pain that limits daily activity".

The total number of those suffering from arthritis is projected to reach 59 million by the year 2020.(**Tollison**, **1998**)

Pelvic pain-one out of every six women suffers from chronic pelvic pain **(Adamson, 1998)**.

Cancer pain-In **1999**, **the American Cancer** Society estimated that "approximately 8.2 million Americans alive today have a history of cancer", and expected another 1.2 million new cases to be diagnosed that year. The Society (1998) further reports that"one out of every three being treated for cancer has related pain".(**Tollison**, **1998**).

The Dollar Cost of Pain

No one can put a price tag on a personal suffering, but we can make some estimates of the dollar cost of pain to the nation as a whole. As with the numbers of people in pain, the estimates vary.

Total Costs-**the American pain foundation (2000)** reports that "pain costs an estimated $100 billion each year," and that over 50 million work days per year are lost to pain (**Slavkin, 1996**).

The Personal Cost of Pain

Long-lasting and lacking meaning, chronic pain can bring on the "'terrible triad 'of suffering, sleeplessness and sadness"

Dr Arnold fox, Past President of the American Academy of Pain Management, speaks of the "Eight Ds" of chronic pain, the eight "side effects" he has seen in chronic pain patients. They are:

1. Depression- Patients wind up feeling that there is no point in trying to get on with their lives.

2. Distraction- Victims focus on their pain so much that they may have difficulty handling other aspects of their lives.

3. "Doctor Dancing"-Patients go from one doctor to the next in their desperate search for relief.

4. Disability-People in pain may be unable to work or take care of themselves because of their physical or emotional symptoms. Compounding the problems, their muscles may weaken because of disuse.