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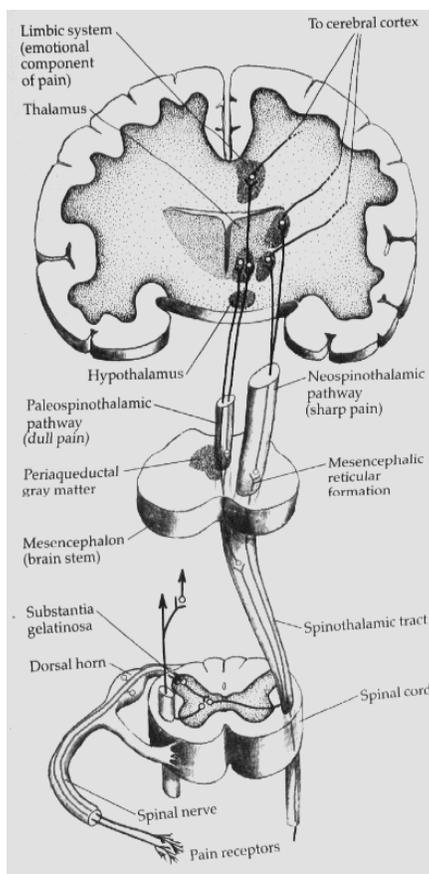
## POST LAMINECTOMY SYNDROME

Post laminectomy syndrome is characterized by chronic spine pain usually with radicular symptoms in a patient who has had one or more prior laminectomies. This chronic pain syndrome is most common in the lumbar spine but is also seen in the cervical spine as well. The indications for spine surgery are for relief of chronic pain and for treatment of neurological deficits caused by spinal pathology. Successful spine surgery reverses or mitigates any neurological deficits and improves function. Unfortunately not all spine surgery done for alleviation of chronic pain is successful, even when the surgery has been technically perfect in correcting the suspected anatomical defect. Part of the problem lies in the chronic pain pathway and the changes that occur at the level of the CNS that

makes the mechanisms of chronic pain unique.

Briefly, the CNS undergoes a kind of rewiring called "CNS windup" that revs up the way afferent nerve inputs are processed and ultimately perceived as pain by the cortex. Biochemical changes in the CNS also occur causing decreasing concentrations of certain chemicals in the spinal canal that directly modulate pain signals at the level of the CNS. Some of these chemicals are serotonin, norepinephrine, and dopamine. The November newsletter explained this in de-

tail. Briefly for review, here is the pathway for chronic pain:



The goal of chronic pain therapy is to reverse some of these chronic changes

### Points of Interest

- Pain Management Consultations
- In office procedure room with fluoroscope Guided Injections Including:
  - Epidural Steroid Injections
  - Facet Injections
  - Discograms
  - Nerve Blocks
  - Sacroiliac Injections
  - Radiofrequency Neural Ablation
- Onsite X-ray
- Musculoskeletal Diagnostic Ultrasound
- DEXA Bone Density
- Physical Therapy
- Nerve conduction/EMG

## POST LAMINECTOMY SYNDROME (CONTINUED)

through methods that enable the CNS to regain the ability to process afferents normally, such as before the spinal cord changed and began winding up, and before those biochemical levels began to decrease. Successful methods include interrupting the pain pathway through nerve blocks or surgery that relieves the causative insult. The problem lies in figuring out what the causative insult is, as most patients with chronic back pain have normal MRIs or minimal pathology on their MRIs (such as mild bulging discs and facet hypertrophy). Because of the CNS changes that occur in the development of chronic pain, the causative insult is almost always more than what the MRI can reveal.

Another reason why many spine surgeries fail to relieve long term chronic pain is scar tissue which forms in the epidural space. This scar tissue can wrap around nerve roots, leading to inflammation and exacerbation of the chronic pain cycle. With each subsequent spine surgery more scar tissue develops, and often chronic pain worsens. Spine surgery is the most invasive treatment for chronic pain involving irreversible anatomical changes. The placement of surgical hardware makes treatment of these chronic pain patients especially difficult because it makes visualization of key anatomical landmarks during fluoroscopic guided procedures extremely difficult. Many patients

with laminectomy syndrome can still benefit from a pain clinic, although early referral is ideal.

I see so many patients with lumbar and cervical laminectomy syndromes, most of who have ***never*** been to a chronic pain clinic before! Chronic pain should be treated with lesser invasive procedures and methods prior to spine surgery. Sending a patient for spine surgery before s/he has ever been evaluated by a pain specialist is like placing the cart before the horse. These lesser invasive procedures include fluoroscopically guided procedures to break the pain cy-

*Chronic pain should be treated with lesser invasive procedures and method prior to spine surgery.*

cle, such as epidural steroid injections, facet blocks (facets are the small joints of the spine), selective nerve root blocks, radiofrequency ablation, and procedures that treat pain of discogenic origin.

A small percentage of patients will need spine surgery, usually those with correctable neurological deficits as a direct result of a defined anatomical lesion, if one can be identified and in cases of instability. When conservative measures fail, a pain clinic is often the patient's best option at functional improvement. A comprehensive pain clinic will offer procedures less invasive than surgery such as, medications that target the different processes along the pain path-

way including specific needle guided injections, physical therapy, massage and pain psychology. These less invasive options do not hamper the efforts of a spine surgeon at a later date. The goal is improved functioning and return to normal activities of daily living, and most patients will get better functionally with these treatments.

It should be remembered that there is no "cure" for chronic pain, but there is successful "management" of chronic pain. As with diabetes, there is no cure (yet), but diabetes can be managed well with proper treatment. Spine surgery certainly has its place in the treatment of these patients, particularly for those who have surgically correctable neurological deficits or instability. However most chronic pain patients can be managed effectively and demonstrate functional improvement with the less invasive options offered at a pain clinic.

**Happy Holidays**

Dr Lisa Mancuso earned her M.D. degree at the Medical College of Pennsylvania in Philadelphia and completed an anesthesiology residency in Pittsburgh. She completed an Interventional Pain Management fellowship at West Virginia University.

