Cauda Equina Syndrome

Cauda Equina Syndrome (CES) is a neurological condition where loss of function in the lumbar plexus occurs. The conus medullaris, a canal containing a mass of nerves (L1-5 and S1-5) is also called the cauda equina, or horse's tail. Compression or trauma to this area can lead to urinary and fecal incontinence, as well as sciatica. A patient history of acute loss of lumbar plexus function and saddle anesthesia, coupled with symptoms of incontinence and sciatica are often enough to give a physician a clinical diagnosis. Often, these are confirmed with MRI. This is a surgical emergency, and good patient recovery correlates with decreased time of nerve compression.



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Acute Loss of Lumbar Plexus Function
Acute-angle Breaking Lumber
Cauda equina syndrome is described as an acute loss of lumbar plexus function. Often pain is absent, and acute loss of bladder control and saddle anesthesia are the only symptoms.

Surgical Emergency
Emergency Surgeon
CES is considered a surgical emergency, as duration of nerve compression is a contributing factor to injury progression. Thus, surgical intervention and decompression plays a large part in improving recovery.

Saddle Anesthesia
Saddle with A-nest of anesthesia
Acutely, patients can lose sensation in a saddle distribution in the genitals, inner thighs and anus. This pattern of sensation loss is described as "saddle anesthesia" and is a sign of possible cauda equina syndrome.

Causes

Inflammatory Disorders
Flames
Inflammatory disorders, especially those which are spinal inflammatory disorders can compress the cauda equina. Examples of diseases include ankylosing spondylitis, chronic TB, Paget disease of bone, neurosarcoidosis and chronic inflammatory demyelinating polyneuropathy.

Spinal Stenosis
Spinal Cord Stenosis Stone
Lumbar spinal stenosis can also lead to CES. This is described as the diameter of the spinal canal narrowing, which can occur with degenerative diseases such as osteoarthritis.

Trauma
Trauma-spike
Trauma sustained to the cauda equina can also lead to CES. Knife and gun wounds, as well as iatrogenic punctures in the lumbar spine can lead to this.

Lesions
Leeches
Lesions caused by tumor metastases, as well as disc prolapse can also cause cauda equina syndrome.

Symptoms

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Urinary and Fecal Incontinence

Urine and Feces In-continents

A common symptom seen in patients with this syndrome is incontinence. As the nerves located in the cauda equina innervate fibers necessary for bladder control and the anal sphincter, function may be lost with cauda equina syndrome. Post-void residual urinary incontinence is seen, as well as decreased anal tone.

Sciatica

Scythe-attack

Sciatica is also a symptom of CES. Sciatica is a term describing pain, weakness, numbness and "pins and needles" sensations which occur in various parts of the buttocks, legs and feet.

Diagnosis

Magnetic Resonance Imaging (MRI)

M-R-eyes Machine

MRI is often used to confirm patients believed to have cauda equina syndrome. MRI is helpful in visualizing disc herniation, tissue damage in penetrating injuries and the overall cauda equina.

Clinical

Clinical Clipboard

Typically, the first means of diagnosis for CES is through clinical diagnosis. A history of acute loss of sensation, coupled with bladder or fecal incontinence and a reasonable cause of etiology is often enough to give a physician concern for CES.

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