Hitting a Nerve: The Triggers of Sciatica

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Disclosures

• I have no financial disclosures
Objectives - Sciatica

• Historical Perspective
• What is Sciatica
• What can cause Sciatica
• Clinical presentation of Sciatica
• How to diagnose Sciatica
• Management of Sciatica
• Prognosis of patients with Sciatica
Sciatica – Common Facts

- Refers to pain that can start in the lower back and radiates through the buttock region into one or both legs.
Sciatica – Common Facts

• Caused by pressure on the sciatic nerve or the nerves from the spinal cord that form the sciatica nerve
• Extremely common
• Treatment is usually successful
Common Terminology

- Herniated disc
- Bulging disc
- Protruding disc
- Fragmented disc
- Spinal stenosis
Anatomy of the Spine

- Spinal Cord
- Cauda Equina
- Spinal Nerve Roots
- Sciatic Nerve
Anatomy of the Spine

- Spinal Cord
- Cauda Equina
- Spinal Nerve Roots
- Sciatic Nerve
Case Report – Sciatica 1930

• 25 year old male – fell skiing in Vermont March 1930
• Developed severe left thigh/calf pain
• Admitted to Mary Fletcher Hospital for bed rest and improved
• January 1932 – reinjured skiing and left leg pain recurred
• Admitted to Mass General Hospital
Sciatica - 1930

• Exam – left leg pain when lifted, absent ankle reflex and tenderness along sciatic nerve
• Diagnosis – lumbar spine tumour
• Operation – July 1932 – Firm nodule coming from L5S1 disc space cartilage –like pressing on nerve root
• First operation for lumbar disc herniation by Mixter and Barr at MGH
• Follow up 1946 by Dr RMP Donaghy MFH
d the lower portion of the cauda equina to the
vidently an enchondroma. It was incised and th

(signed)

DETAILED ACCOUNT OF OPERATION (TO BE FILLED IN BY HOUSE OFFICER
-aive field.
-lean or infected
-aition in full

-removed piece-meal, allowing it to collapse and
are on the root. The wound was closed in layers

FIG. 1

specimen made by Mixter for his operative note. (Reprinted with permission from Massachusetts General Hospital, Boston,
Case Report - Sciatica - 2014

• 40 year old male twists back at work and develops severe right leg pain with numbness and weakness of leg
• PCP – Rx - rest, medication – no improvement
• PCP – Rx - Physical therapy - no improvement
• Patient unable to work
• 6 weeks later – Xrays and MRI
Sciatica – 2014

- MRI shows lumbar disc herniated at L4-5
- Referral to Neurosurgeon for consultation
- More conservative Rx recommended
- After 12 weeks of sciatica with numbness and weakness, surgery recommended
- Surgery – microdiskectomy with patient home same day with minimal pain and gradual recovery of sensation and power
Common Causes of Sciatica

- Herniated Lumbar Disc
- Spinal stenosis
- Spondylolisthesis
- Spinal Cord Tumor
- Spinal Infection – epidural abscess
- Tethered cord – Spina Bifida
- Sciatic Nerve Tumors
Common Causes of Sciatica

- Herniated Lumbar Disc
Herniated Lumbar Disc

- Very common – Ages 30 – 60
- Discs material herniates into the spinal canal and pinches the nerve roots
Herniated Lumbar Disc

- Severe pain associated with back pain and leg pain, weakness and numbness
- 70% resolve within 8 to 12 weeks
- Surgery may be necessary
Common Causes of Sciatica

- Spinal Stenosis
Lumbar Spinal Stenosis

- Very common
- Degenerative process – wear and tear process
- Form of Arthritis
- Older population
- Spinal canal narrows and pinches nerve roots in the spinal canal
Other Causes of Sciatica

- Spinal Tumor
Spinal Tumours

• Originate in the Spinal nerves
• Most are benign and slow growing
• Occur mid adulthood
• Squeeze normal nerve roots
• Surgery usually necessary
Other Causes of Sciatica

• Tethered Cord
Lumbar Spondylolithesis

- Slippage of vertebra on each other
- Can be congenital or degenerative
- Teenagers or adults
- Symptoms may improve with conservative treatment or surgery
Clinical presentation of sciatica

- Usually starts as severe burning pain from buttock down leg to foot – electric shock–like
- Associated with numbness, tingling and weakness of leg
- Need to call doctor if persistent severe pain or marked weakness of leg or foot
Risk Factors for Sciatica

- Age
- Obesity
- Occupation
- Prolonged sitting
- Diabetes
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How is cause of sciatica diagnosed?

- History
- Physical Examination
- Xrays
- MRI Scan
- CT Scan - Myelogram
How is cause of sciatica diagnosed?

MRI

EMG/NCT

Diagnostic Steroid Injections
Management of Sciatica – Disc Herniation - Conservative

- Anti-inflammatory drugs
- Muscle relaxants
- Narcotics
- Oral Steroids
- Other meds such as Neurontin, Lyrica
Management of Sciatica – Disc Herniation - Conservative

• Physical Therapy
• Steroid injections
Management of Sciatica
Management of Sciatica - Surgery

• Lumbar discectomy
  – Surgery – Relieve the pressure on the nerve root
  – Only 10-20% patients need surgery
Indication for Surgery

- Severe Pain
- Marked weakness
- Prolonged pain
- 12-16 weeks
- Bladder or bowel loss of control
Treatment of Sciatica

• Tumours - Surgery
• Stenosis - Laminectomy
• Infection – Antibiotics and Surgery
• Slipped vertebra – Physical therapy – or surgical fusion
Prevention and Prognosis of Sciatica

- Exercise regularly
- Maintain proper posture
- Maintain appropriate weight
- Practice good body mechanics

- Prognosis – Conservative vs Surgery - Most recover
Questions?
Prognosis
Sciatica

Introduction

Sciatica describes an irritation of the sciatic nerve, which is the largest single nerve in the human body. The sciatic nerve begins from several nerves in the lower lumbar vertebrae and the sacrum at the bottom of the spine. These nerves combine to form the sciatic nerve, which travels through the buttocks and down each leg. Sciatica nerve irritation can result from compression of the sciatic nerve roots or from inflammation.
Other causes of sciatica
Sciatica
Home Remedies
Other causes of sciatica – non spinal