

Radiating Leg Pain in an Obese Patient

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PATIENT HISTORY

CHIEF COMPLAINT:

54-year-old obese male complains of:

- Left thigh pain with numbness, tingling, burning

HISTORY OF PRESENT ILLNESS:

- Onset: Insidious over the past month
- Frequency: Gradually increasing
- Severity: Pain was rated as 8/10
- Pain intensifies with walking, standing or wearing "favorite jeans"
- Limited relief with ibuprofen 800 mg
- Denies leg weakness or back pain

PAST MEDICAL HISTORY:

- Diabetes mellitus type 2
- Hyperlipidemia.
- History is negative for previous trauma or surgeries; dizziness, chest pain, shortness of breath, nausea, and muscle weakness

EXAMINATION

- Alert & oriented, in mild distress

VITALS:

- BP: 136/84, Pulse: 82, BMI: 32.2
- T: 98.2°F, Resp: 20, SpO2: 98%

PHYSICAL EXAM:

- Dyesthesia present left anterolateral thigh
- Full ROM flexion & extension of hip/knee
- Left lateral femoral condyle nontender
- Straight leg raise test negative
- Strength was 5/5 bilaterally
- No erythema/swelling/bruising

DIFFERENTIAL DIAGNOSIS

- A. Greater trochanteric bursitis
- B. Iliotibial band syndrome
- C. Lumbar disk herniation with radiculopathy (sciatica)
- D. Meralgia paresthetica

DISCUSSION

- The patient was diagnosed with meralgia paresthetica (MP), compression of the lateral femoral cutaneous nerve beneath the inguinal ligament which supplies sensation to superficial skin of thigh.
- There are no motor symptoms because the lateral femoral cutaneous nerve is a purely sensory nerve.
- Dyesthesias are common; all other PE findings are typically normal.
- Iliotibial band syndrome typically presents with knee pain exacerbated by cycling or running downhill and tenderness to palpation of the lateral femoral epicondyle.
- Patients with greater trochanteric bursitis complain of pain frequently made worse when lying on the affected side.
- Lumbar disk herniation with radiculopathy typically presents with back pain that radiates down the posterior and occasionally lateral thigh.

TREATMENT:

- Standard of care focuses on relieving compression of the nerve.
- MP commonly improves with removing compressive agents, nonsteroidal anti-inflammatory medications, and local corticosteroid injections.
- When symptoms persist for more than two months or the pain is severe, gabapentin, capsaicin cream, phenytoin, pregabalin or tricyclic antidepressants are used.
- Surgery to decompress the nerve is rare.

DISEASE EPIDEMIOLOGY

- The incidence of MP in people with diabetes is 247 per 100,000 patient years
- The incidence of MP in diabetics is seven times the occurrence of MP in the general population. ¹
- The incidence rate of MP is 4.3 per 10,000 person years .
- Most patients with MP are in the age group of 41-60 years .

RISK FACTORS:

- Diabetes ²
- Obesity
- Wearing tight trousers

CONCLUSION

Acknowledging that the incidence of MP is expected to increase as the prevalence of obesity and diabetes increase, it is important to recognize signs and symptoms early. Counseling may be warranted for patients who have diabetes or are obese.

REFERENCES

1. Parisi TJ, Mandrekar J, Dyck PJ, Klein CJ. *Neurology*. 2011;77(16):1538-1542.
2. Van Slobbe AM, Bohnen AM, Bernsen RM, Koes BW, Bierma-Zeinstra SM. *J Neurol*. 2004;251:294-297.
3. Grossman MG, Ducey SA, Nadler SS, Levy AS. *J Am Acad Orthop Surg*. 2001;9(5):336-344.

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ABSTRACT

A 54-year-old obese male presented with a chief complaint of pain radiating down his left thigh. He described the pain as “numbness, tingling and burning” that had been present over the past month.

History: Four weeks prior to this clinic visit, he began to notice a burning sensation down his left thigh, and the sensation intensified after walking, standing or wearing his “favorite jeans.” He stated the pain had a gradual onset, and the episodic frequency increased over the past month. Initially, he experienced the pain a few times per week; however recently, he experienced the pain every day multiple times per day. He stated he had been trying to exercise every day, but the pain was getting much worse, preventing him from exercising. He had become very concerned because he experienced the pain even at rest, which prompted him to seek medical attention.

The patient stated he had not experienced this pain down his right thigh, or anywhere else on his body. The pain was rated 8 out of 10, and he had taken ibuprofen 800 mg with some relief. He stated the pain was not made worse when lying on his left side during sleep. He had never experienced this pain before and had no associated leg weakness or back pain. His past medical history was remarkable for diabetes mellitus type 2 and hyperlipidemia, but denied previous trauma or surgeries. A review of systems was negative for dizziness, chest pain, shortness of breath, nausea, and muscle weakness.

Physical Examination On general inspection, he was alert and oriented, but somewhat uncomfortable. His vital signs were: temperature, 98.2° F; blood pressure, 136/84 mmHg; heart rate, 82 beats per minute; respirations, 20; and SpO₂, 98% on room air. His weight was 218 lb (98.9 kg); height, 69 in (175.3 cm), and body mass index, 32.2. There was no erythema, swelling, bruising or rash on the left lateral thigh. Dyesthesia was present in the left anterolateral thigh. The patient had full range of motion with flexion and extension of the hip and knee. The left lateral femoral epicondyle was nontender to palpation. A straight leg raise test was negative and strength was 5/5.

Differential Diagnoses: Iliotibial band syndrome, greater trochanteric bursitis, and lumbar disk herniation with radiculopathy (sciatica)

Discussion The patient was diagnosed with meralgia paresthetica (MP), or compression of the lateral femoral cutaneous nerve beneath the inguinal ligament, which supplies sensation to the superficial skin of the thigh. MP is characterized by paresthesia located over the anterolateral thigh. There are no motor symptoms because the lateral femoral cutaneous nerve is a purely sensory nerve. Dyesthesia is present along the distribution of the lateral femoral cutaneous nerve, while all other physical examination findings are typically normal. Risk factors include diabetes, obesity, and wearing tight trousers. One population-based study showed the incidence of MP in people with diabetes was 247 per 100,000 patient years, seven times the occurrence of MP in the general population.¹ Also, the incidence rate of MP is 4.3 per 10,000 person years, and most patients with MP are in the age group of 41-60 years.²

Iliotibial band syndrome typically presents with pain in the anterolateral knee that is exacerbated by cycling or running downhill. The pain is usually absent at rest. Upon physical examination, patients have tenderness to palpation of the lateral femoral epicondyle. Patients with greater trochanteric bursitis complain of pain near the greater trochanter that is frequently made worse when lying on the affected side. Lumbar disk herniation with radiculopathy typically presents with back pain that radiates down the posterior and occasionally lateral thigh to the foot. There is associated weakness in foot dorsiflexion, toe extension, foot inversion, and foot eversion. The straight leg raise test is more than 90% sensitive for sciatica.

Treatment The standard of care focuses on relieving compression of the nerve. MP usually improves with conservative treatment, such as removing compressive agents, nonsteroidal anti-inflammatory drugs, and local corticosteroid injections if necessary.³ If symptoms persist for more than two months or the pain is severe, other medications may be needed. These include gabapentin, capsaicin cream, phenytoin, pregabalin or tricyclic antidepressants. Imaging and nerve conduction studies are typically not indicated, and surgery to decompress the nerve is rare.

Conclusion Obtaining a thorough history and physical is very important, as this remains a clinical diagnosis. The incidence rate of MP will most likely increase as the demographics of obesity and diabetes increases. Because of this, it is critically important to recognize signs and symptoms of this condition, and more counseling and awareness may be warranted for patients in your clinical practice who are obese or have diabetes.

References

1. Parisi TJ, Mandrekar J, Dyck PJ, Klein CJ. Meralgia paresthetica: relation to obesity, advanced age, and diabetes mellitus. *Neurology*. 2011; 77(16): 1538-1542.
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