



# Diabetic obturator mononeuropathy as a cause of sciatica: case report

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## Case scenario

A 73-year old man presented at the ER with low back pain irradiating in the left lower limb, over the groin area and anteromedial thigh since 2 days. He had a history of chronic obstructive lung disease and longstanding diabetes mellitus type II, complicated with macroangiopathy, retinopathy and nephropathy. He lost 15 kilograms of body weight the last year without an identifiable cause.

## Clinical presentation

Clinical examination showed reduced power of hip flexion (mMRC 2/5) and hip adduction with flexed knee (mMRC 1/5) on the left. Knee jerk reflex, ankle jerk reflex and sensibility testing (light touch and pin prick) were normal and symmetrical. Straight leg raising and femoral nerve stretch tests were negative.

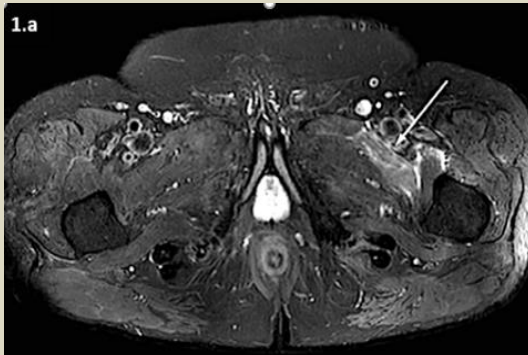
## Technical investigation

MRI of the low back area showed no radicular compression to explain symptomatology. Blood analysis showed a poor control of diabetes mellitus and CSF analysis was normal. Electromyography 5 days after onset showed only one recruitable motor unit in the adductor longus muscle. MRI of the pelvic regio 6 days after onset showed edema-like abnormalities in a proximal obturator nerve innervated muscle, suggestive for denervation.

## Synchronism of alterations on MRI and EMG

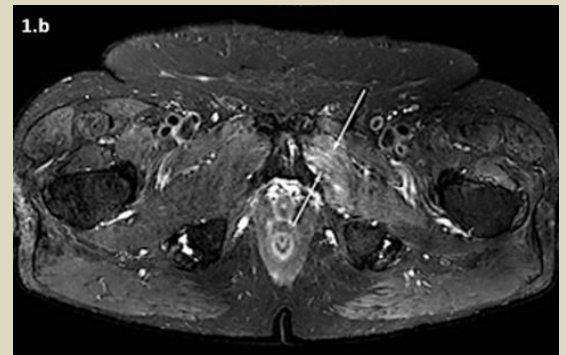
6 days after onset

Isolated edema-like appearance of the pectineus muscle suggestive for denervation edema.



49 days after onset

Edema-like appearance of the long and short adductor muscle and the external obturator.



MRI pelvis (T2-SPAIR)

Electrodiagnostic

EDX		19-11-2019 (5 days after onset)	10-12-2019 (26 days after onset)	21-01-2020 (68 days after onset)
m. adductor longus left	Rest	Prolonged insertional activity +	Fibrillation potentials +, positive sharp waves ++	Fibrillation potentials +, positive sharp waves ++
	Contraction	1 MUAP	0 MUAP's	0 MUAP's
	MUAP-analysis	Impossible	Impossible	Impossible
m. pectineus left	Rest	N.E.	Fibrillation potentials ++, positive sharp waves ++	Fibrillation potentials +, positive sharp waves +
	Contraction	N.E.	No MUAP's	2 MUAP's
	MUAP-analysis	N.E.	Impossible	Polyphasic ++, instable, satellite potentials ++
m. gracilis left	Rest	N.E.	Positive sharp waves +	Fibrillation potentials +, positive sharp waves ++
	Contraction	N.E.	0 MUAP's	0 MUAP's
	MUAP-analysis	N.E.	Impossible	Impossible
m. vastus medialis left	Rest	Negative	Negative	Negative
	Contraction	Normal	Intermediate	Poor
	MUAP-analysis	Normal	Normal	Normal

## Background

An obturator mononeuropathy is rare. Besides a diabetic neuropathy, other causes are a sports hernia, nerve entrapment, compression by hemorrhage or tumor, surgical complication and pelvic trauma. A mononeuropathy typically starts with pain, but afterwards weakness is the most prominent clinical sign. MRI of the pelvic region is the most sensitive investigation.

## Implications for clinical practice

1. A (diabetic) obturator mononeuropathy is a rare cause of sciatic pain
2. Important differential diagnosis (when imaging of the low back area is negative)
3. Compatible value of EDX and medical imaging with a similar proximodistal gradient of abnormalities through time.

