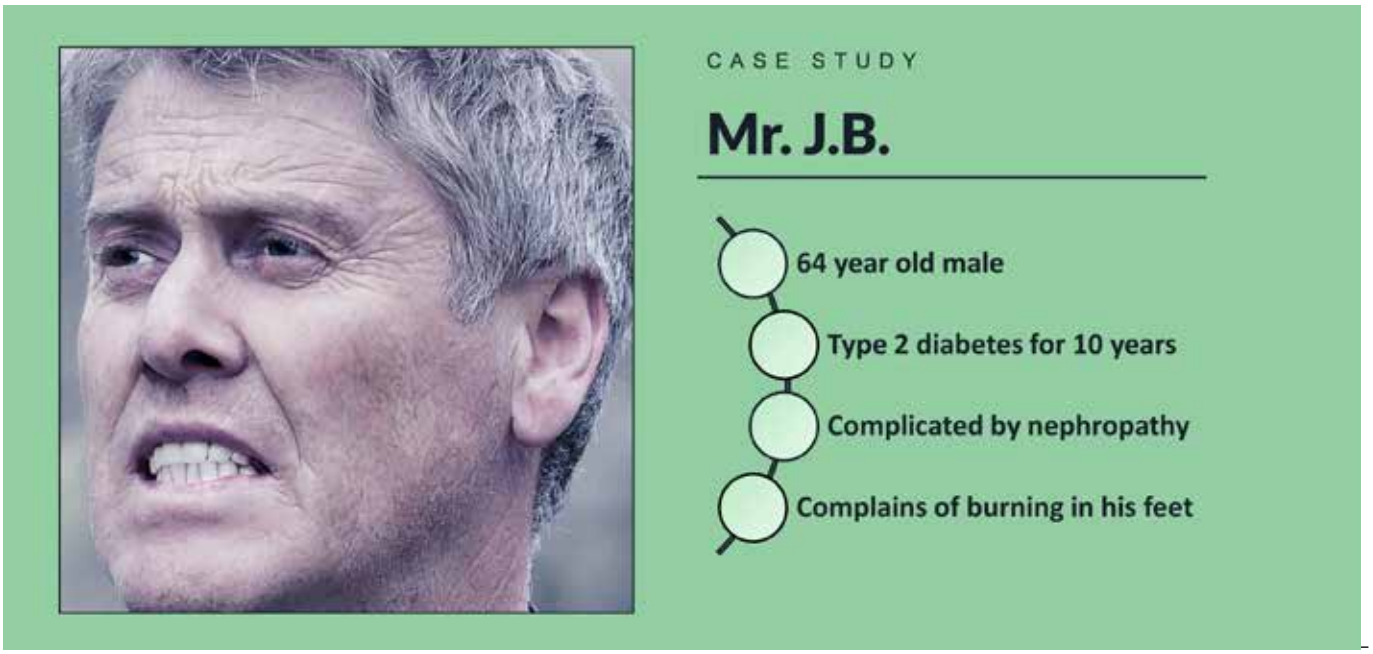
Diabetes Complications:
Diabetic Neuropathy

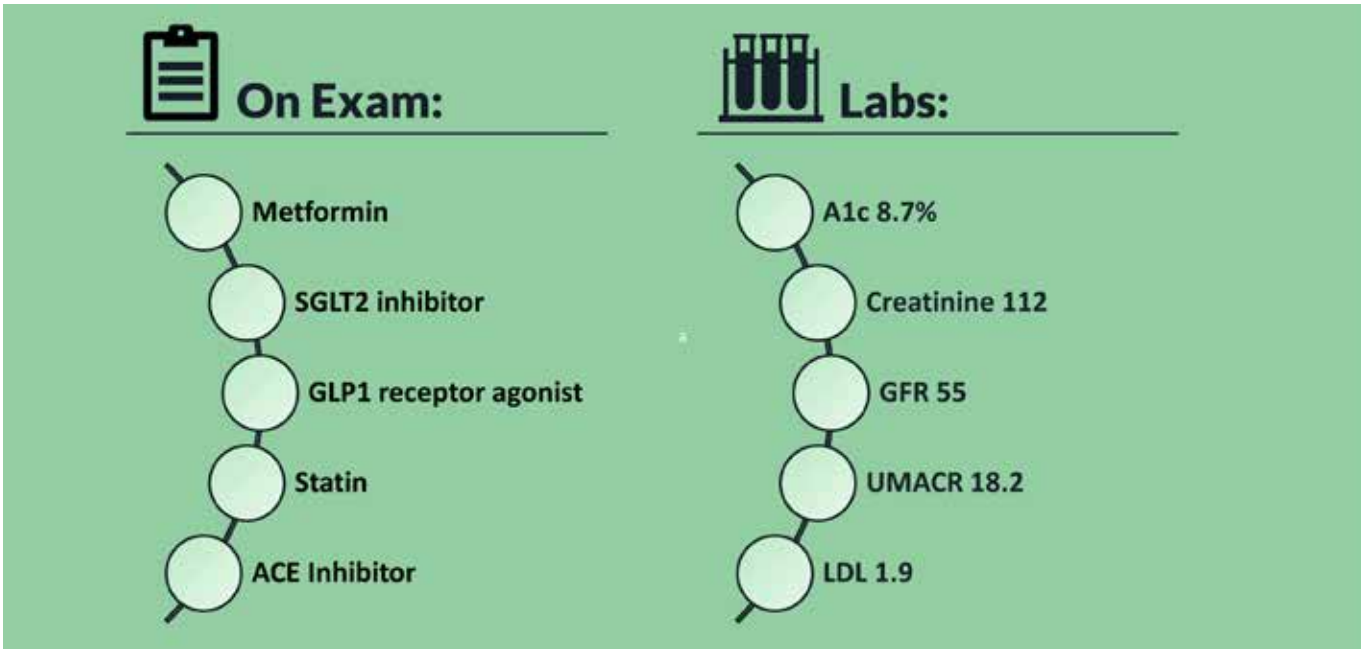
Aaron Izenberg, MD, FRCSC, Neurologist, Sunnybrook Health Sciences Centre, Assistant Professor, University of Toronto, Toronto, ON.

This is a case of mr. JB. He's a 64 year old man who has had type 2 diabetes for 10 years. This is already known to be complicated by nephropathy and he is presenting with burning pain in both of his feet.

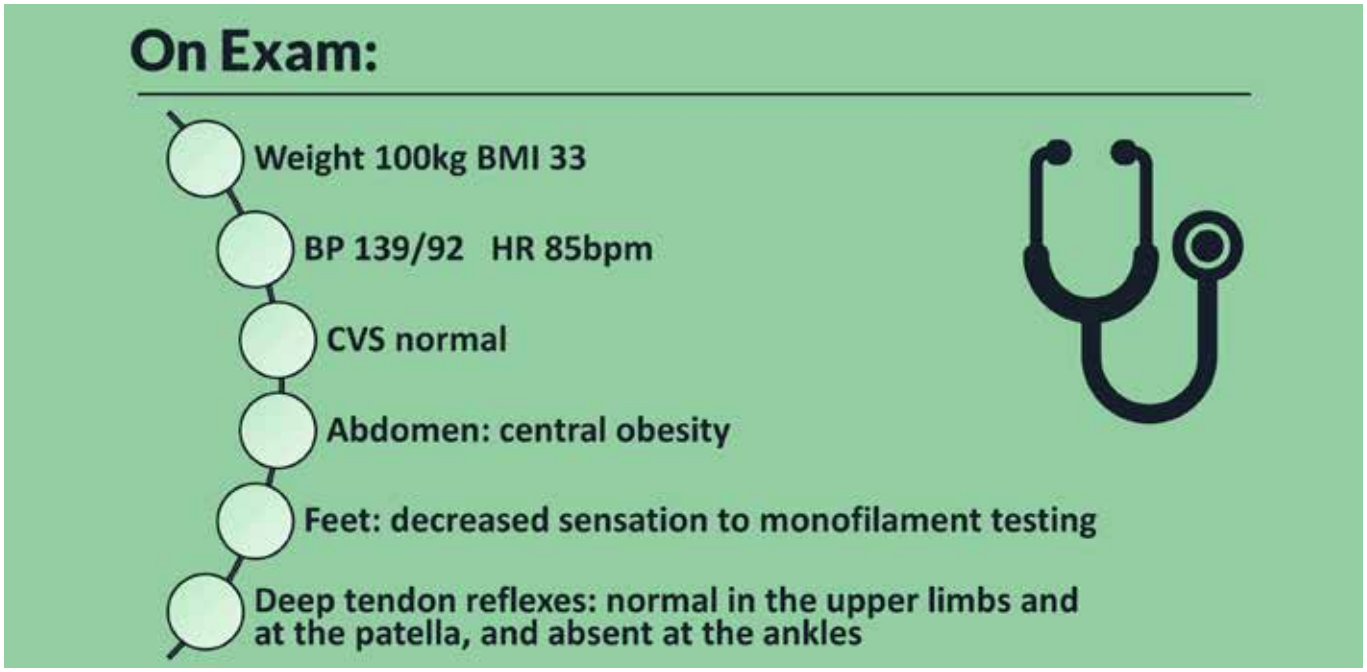
He is on multiple medications including Metformin and SGLT2 inhibitor, a statin, ACE inhibitor, and a GLP-1 receptor agonist. As you can see his labs revealed that his diabetes is not optimally controlled with an A1c of 8.7 percent.

On exam he has a BMI of 33 and is slightly over weight. Cardiovascular exam is normal, his abdominal exam reveals central obesity. On neurological exam he has decreased sensation to monofilament testing in his feet though this is normal in the hands. His deep tendon reflexes are normal in the upper limbs and at the patella and absent at



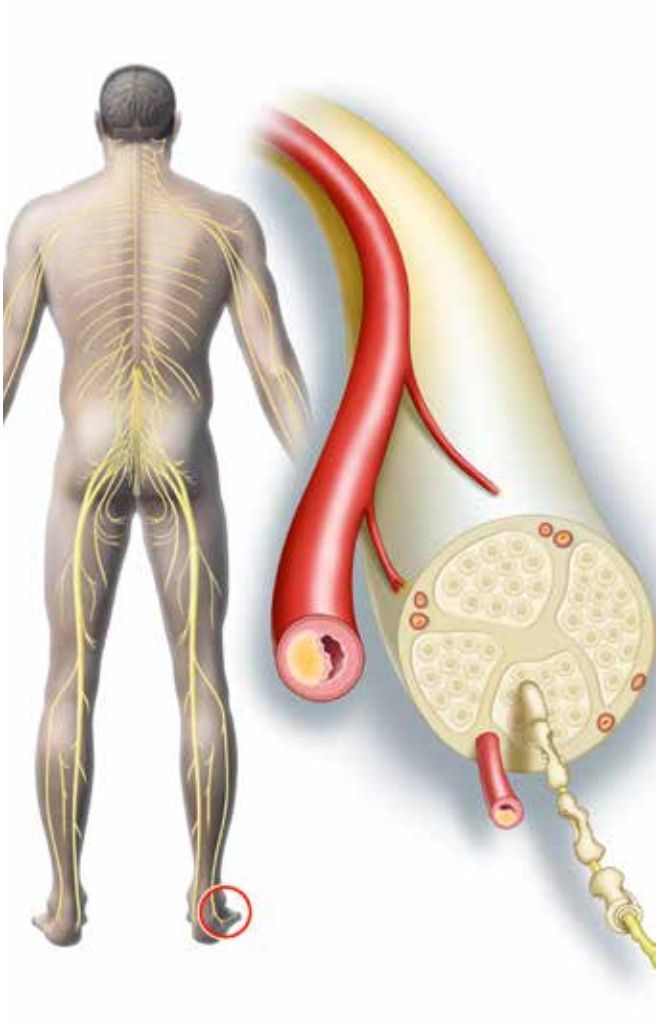


the ankles. Motor exam reveals a normal strength in the arms and legs. So this is a fairly classic presentation of diabetic sensory motor polyneuropathy where symptoms begin with subtle sensory symptoms or pain in the feet. The neurological exam reveals mild sensory deficits in the feets and areflexia at the ankles, but relatively spared strength. If this patient were to undergo an EMG and nerve conduction studies this might



reveal decreased or absent sensory responses in the feets with normal sensory responses in the hands the cornerstone of management for this patient will be optimized glycemic control as well as pain medications with antidepressant or anticonvulsant drugs.

To summarize although diabetics sensorimotor polyneuropathy is the most common neuropathy in diabetes there are many subtypes that exist and that we need to be aware of. The key is to look for the atypical features such as asymmetry proximal involvement or severe pain and as always the most important aspect of management for all of the above is optimized glycemic control.



Clinical Pearls

Neuropathy is a very common complication of diabetes with sensorimotor neuropathy being the most common subtype of diabetic neuropathy

Other types of diabetic neuropathies include autonomic, treatment-induced, diabetic lumbosacral radiculoplexus, and mononeuropathies

Diagnostic testing for sensorimotor neuropathy includes bedside testing (e.g., Monofilament) and electrodiagnostic methods

Treatment of sensorimotor diabetic neuropathy includes achieving good glycemic control and appropriate use of pain medications