# ENDGAMES

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## PICTURE QUIZ  A painful right leg



(A) Axial T1 weighted and (B) sagittal T2 weighted fast spin echo sequence
magnetic resonance imaging scans of the patient's lumbosacral spine

A 68 year old man was referred for assessment of a painful right leg. The symptoms
had started three years previously with intermittent pain on the lateral aspect
of the right calf. The pain had gradually become more persistent and spread to
the sole of the foot, the back of the leg, and the buttock. Within six months the
painful area had become numb, and within one year he noticed onset of right leg
weakness, which was progressive. The pain was severe, worse when lying down,
and he required considerable doses of opiates, which did not fully relieve the
pain. He had longstanding constipation, but no recent change in bladder or sexual
function.

He had a history of Gleason grade 3+3 prostatic carcinoma, for which he had
undergone radical prostatectomy four years earlier. This had been followed by
radiotherapy to the prostate bed, and he was being treated with ongoing goserelin
injections. His prostate specific antigen level was 8.17 µg/L when first seen;
however, when repeated it was 3.14 µg/L. He also had a history of well controlled
non-insulin dependent diabetes and hypertension.

On examination the patient was in pain. He had wasting of the right gluteus
maximus and hamstrings, without fasciculations. Tone was normal. Hip flexion
and knee extension power was Medical Research Council grade 5/5; however,
there was weakness of hip extension to 4/5, knee flexion to 3/5, and ankle
dorsiflexion and plantarflexion to 0/5. Reflexes were initially absent in the right
leg with reinforcement; however, when the patient's pain was under better
control the knee jerk was present but ankle jerk remained absent. He had sensory
loss to pinprick in the distribution of L5 to S3 dermatomes on the right, whereas
perianal sensation was intact (S4 and S5). There was impaired proprioception and
vibration sense to the knee. Examination of the arms and the left leg was normal.

Magnetic resonance imaging of the pelvis, lumbosacral spine, and plexus was
performed.

1  Given the clinical findings, what is the anatomical location of the lesion?

2  What does the magnetic resonance imaging scan show and what are the
   differential diagnoses for the imaging and clinical findings?

3  What investigation(s) would confirm the diagnosis and what are
   potential complications?

4  What treatment is indicated?

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## ON EXAMINATION QUIZ

### Hypertension

This week's question is on hypertension and is taken from the
onExamination revision questions for the MRCGP exam.

A 35 year old man attends the surgery for a hypertension review,
after being flagged up by the practice nurse for the general
practitioner clinic.

He is currently taking ramipril 10 mg, amlodipine 5 mg, and
atenolol 50 mg yet his blood pressure is still raised at 150/90 mm
Hg. You check his urea and electrolytes; his sodium is 140 mmol/L,
potassium is 3.4 mmol/L, and creatinine is 110 µmol/L.

**Which one of the following is the most likely diagnosis?**

A  **Conn's syndrome**

B  **Cushing's syndrome**

C  **Essential hypertension**

D  **Phaeochromocytoma**

E  **Renal artery stenosis**

## STATISTICAL QUESTION

### Sampling methods III

A randomised controlled trial investigated whether physical activity
in preschool children (under 5 years) reduced obesity. The active
intervention was an enhanced physical activity programme plus
health education, whereas the control treatment was no intervention.
All preschool nurseries in Glasgow were invited to participate.

Each nursery was categorised by three characteristics thought to
affect the intervention and the study outcomes. These characteristics
were type of nursery (school, class, extended day, private sector),
size of nursery (area and number of children), and socioeconomic
status of the area. For each set of preschool nurseries with the
same characteristics, two were randomly selected from those that
agreed to participate, one of which was randomly allocated to active
intervention and the other to control. In total, the trial investigated
36 preschool nurseries. The body mass index, physical activity,
sedentary behaviour, and fundamental movement skills of each child
in each nursery were recorded at regular intervals for 12 months. The
active intervention significantly improved motor skills but did not
reduce body mass index.

**Which one of the following best describes the sampling method used
in the above study?**

a)  **Simple random sampling**

b)  **Stratified cluster random sampling**

c)  **Cluster sampling**

d)  **Quasi-random sampling**

Submitted by Philip Sedgwick

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