Rare Non-Neurogenic Sciatic Nerve Tumours

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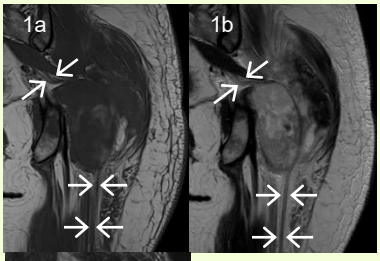
Objectives
Schwannomas and neurofibromas are the typical sciatic nerve tumours

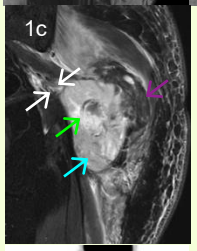
Rare non-neurogenic tumours or tumour-like masses can also arise from or intimately involve the sciatic nerve

Materials and Methods
Retrospective analysis of patients seen in our institution between 2024-2025 with sciatic nerve tumours..

Results
Three rare non-neurogenic tumours involving the sciatic nerve are presented: synovial sarcoma, tenosynovial giant cell tumour (TGCT), and chronic organizing hematoma..

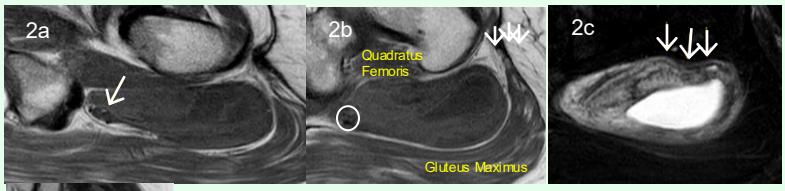
Synovial sarcoma

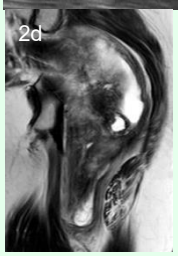




(1a) Coronal T1W and **(1b)** coronal T2W images showing fusiform mass with sciatic nerve entering and exiting proximally and distally (arrows).
(1c) Coronal T2 fat-suppressed image shows 'triple sign', with strongly hyperintense-fluid like signal intensity medially (green arrow), mildly hyperintense tumoural matrix-type tissue centrally (blue arrow) and hypointense tissue representing haemorrhage or fibrosis laterally (purple arrow). The tumour invades the moderately oedematous gluteus medius muscle superolaterally. Sciatic nerve (white arrow) is present at superomedial aspect of tumour.
(1d) PET-CT maximum intensity projection showing hypermetabolic gluteal mass with iliac, paraaortic, mesenteric and left supra-clavicular nodal metastases, as well as lung and bone metastases.

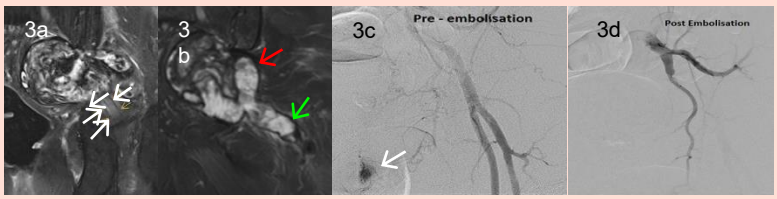
TGCT





(2a) Axial T1 images showing large tumour arising from sciatic nerve (arrow).
(2b) Axial T1 image showing the tumour is inseparable from sciatic nerve (circle) and located deep to gluteus maximus and superficial to quadratus femoris muscle.
(2c) Axial T2W fat-saturated image showing thin hypointense rim (arrows), suggestive of hemosiderin deposition.
(2d) Coronal T2W images confirmed the cystic nature of the tumour, extending along the sciatic nerve.

Chronic Organizing Haematoma



(3a) Coronal T2W image shows a heterogeneous mass straddling the greater sciatic foramen, displacing the main trunk of sciatic nerve (arrow) anteriorly.
(3b) Coronal T2W fat suppressed image demonstrates the hematoma show tubular extension along superior gluteal nerve (red arrow) and inferior gluteal nerve (green arrow) respectively.
(3c) Pre-embolization angiogram of internal iliac artery denoting vascular staining in the gluteal region (arrow), in keeping with active bleeding.
(3d) Post-embolization angiography of the internal iliac artery demonstrates resolution of the vascular blush in the gluteal region.

Synovial sarcoma and TSGCT can rarely arise from primitive non-neural cell contained in the sciatic nerve. Chronic organising haematoma can occur in the absence of trauma, due to the abundance of arteries around the sciatic nerve. These rare tumours may mimic typical nerve sheath tumours.