



Interesting cases NEUROLOGY

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Dear Doctor,

Greetings from Micro Labs Limited.

We are happy to bring you "Neurology case series", which contains latest and interesting cases in the field of Neurology.

This issue contains

1. Case study: Recurrent Guillain-Barr'e Syndrome (GBS) after Influenza Vaccination
2. Case study on Cerebral amyloid angiopathy-related inflammation
3. Fail-implanted venous port catheter system: A rare cause of stroke

Should you require any specific article or medical information, please feel free to contact us at medicalservices@microlabs.in

Looking forward to your valuable feedback

Best Regards,

Medical Team,

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Case study: Recurrent Guillain-Barré Syndrome (GBS) after Influenza Vaccination

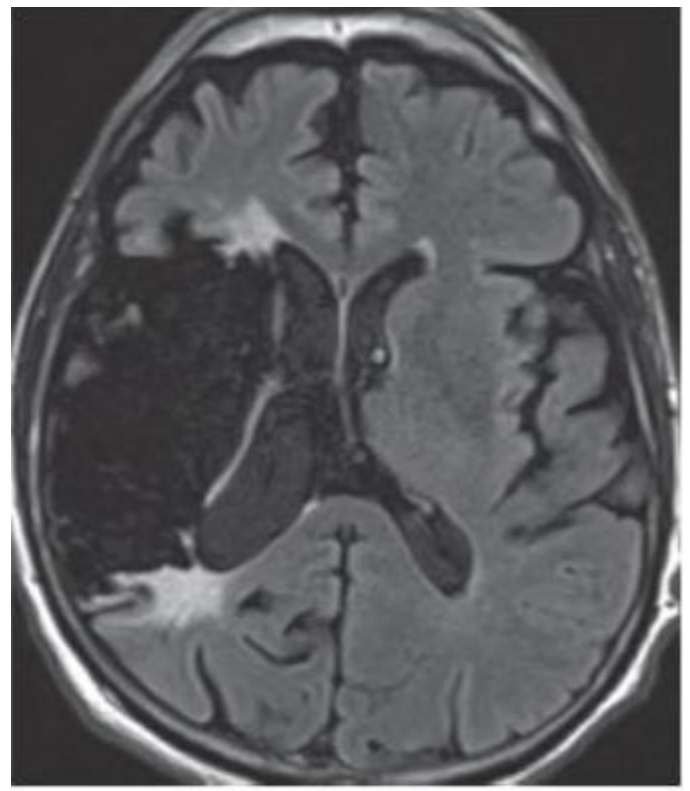
Patient description:

A 60-year male patient with a history of remote right middle cerebral artery (MCA) stroke and left hemiplegia presented with ascending weakness of the right hemibody, areflexia, and acute respiratory failure requiring intubation. He required 18 days of mechanical ventilation for GBS following influenza vaccination in 2015 and was treated with intravenous immunoglobulin (IVIG) and plasma exchange (PLEX) and made full recovery and later was discharged.

He received the 2020 influenza vaccine approximately 5 weeks prior to admission. Paresthesias of the right hemibody and weakness developed that progressed to inability to feed himself and respiratory failure 48 hours later. Imaging of the neuraxis showed the prior right MCA stroke.

Negative inspiratory pressure (NIF) was -5 cm H₂O (normal > 60 cm H₂O) and right upper and lower extremity power 0/5 with 0/4 reflexes. Lumbar puncture was deferred while waiting for clearance of the medication because he was on apixaban for atrial fibrillation.

Plasma exchange (PLEX) was started and he received 5 sessions over a period of 8 days. Lumbar puncture revealed normal cell counts with elevated protein (108 mg/dl (normal 15–45 mg/dl). Prolonged motor distal latencies and severely slowed conduction velocities were revealed by nerve conduction study.



(MRI-FLAIR) sequence shows the encephalomalacia from the right middle cerebral artery (MCA) infarct.

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Sural sensory response was normal and F waves were absent. Electromyography (EMG) showed fibrillation potentials (+1) in the right deltoid along with severely decreased recruitment in the right triceps and right tibialis anterior. Right upper extremity strength had improved to 3+/5 and lower extremity at least 3-/5 in proximal muscle groups by day seven. Patellar muscle stretch reflex improved to 1+/4 but Achilles reflex remained 0/4. He was eventually transferred to a long-term acute care hospital for anticipated long-term rehabilitation and treatment.

Discussion:

In both incidences, separated by approximately five years, the influenza vaccine was given within 6 weeks prior to symptom onset. GBS is suspected to be immune-mediated in which antibodies respond to antigens and cross-react with nerve ending antigens, resulting in ascending weakness, areflexia, and in serious cases such as respiratory failure, autonomic instability, and death.

Conclusion:

The risk of Guillain-Barré syndrome along with vaccination is low at 1 to 3 cases per million subjects vaccinated. The incidence of GBS recurrence after vaccines appears low but has not been well described. It is important to carefully weigh risks and benefits of revaccination despite the low incidence.

Reference:

Griffin G et al. Lighting Strikes Twice- Recurrent Guillain-Barré Syndrome (GBS) after Influenza vaccination. Case Reports in Neurological Medicine. 2021 Feb 3;2021

Case study on Cerebral amyloid angiopathy-related inflammation

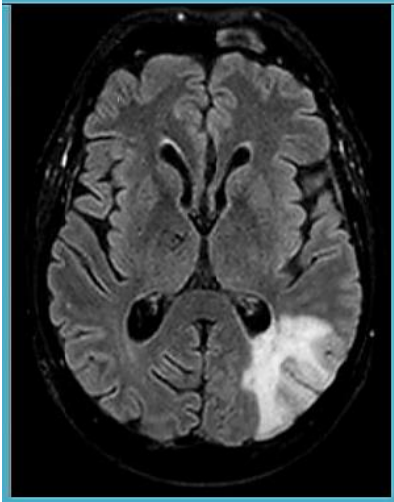
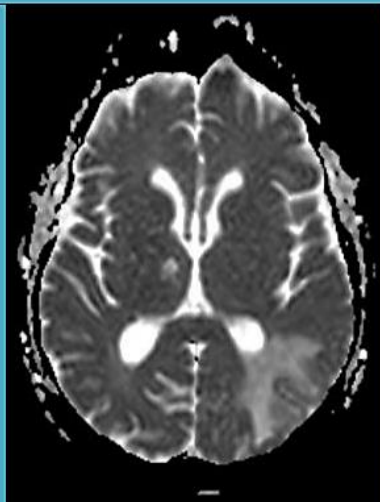
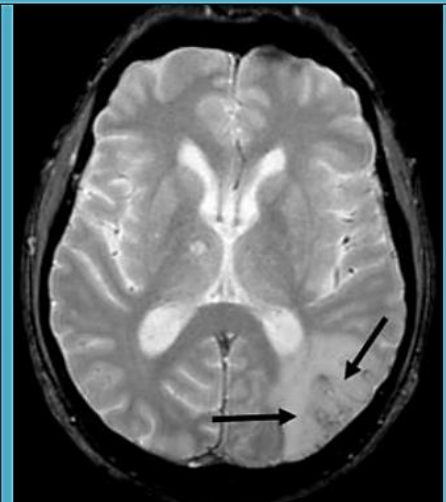
Patient description:

A 70-year-old man with headache presented to the emergency department due to sudden clinical worsening characterised by global aphasia, right lateral homonymous hemianopia and cognitive deterioration. CT scan showed left parietal and occipital hypodensity consistent with oedema. MRI fluid-attenuated inversion recovery sequence showed subcortical oedema and effacement of the overlying sulci. Apparent diffusion coefficient image showed hyperintense signal, suggesting vasogenic oedema.

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MRI fluid-attenuated inversion recovery sequence showed subcortical oedema and effacement of the overlying sulci.	Apparent diffusion coefficient image showed hyperintense signal, suggesting vasogenic oedema.	T2*-weighted sequence showed multiple small hypointense cortical and subcortical signal changes, consistent with microhaemorrhages.

MRI fluid-attenuated inversion recovery (FLAIR) sequence confirmed subcortical oedema, associated with effacement of the over-lying sulci, without associated diffusion restriction or contrast material enhancement. Multiple small hypointense cortical and subcortical signal changes, showed in T2*-weighted sequence. Diagnosis of cerebral amyloid angiopathy-related inflammation (CAA-ri) was suggested based on MRI findings. Oral steroid therapy was given and the subject fully recovered.

Cerebral amyloid angiopathy-related inflammation (CAA-ri) is characterised by progressive cognitive decline, seizures, headaches, T2-weighted hyperintense MRI lesions, evidence of pre-existing CAA on susceptibility-weighted MRI sequences and neuropathological evidence of CAA-associated vascular inflammation.

Six findings are required in the diagnosis of probable CAA-ri- Acute or subacute onset of symptoms, 40 years of age or older, acute or subacute onset of headache, decrease in consciousness or behavioural change, focal neurological deficits and seizures, MRI with patchy or confluent T2-weighted, multiple lobar microhaemorrhages, absence of neoplastic, infectious or other cause.

There is a favourable response to immunosuppressive therapy. Some subjects may have fluctuating course or relentless progression.

Conclusion:

Cerebral amyloid angiopathy-related inflammation (CAA-ri) diagnosis is very important in clinical practice as many subjects respond to immunosuppressive therapy.

Reference:

Voicu IP et al. Cerebral amyloid angiopathy-related inflammation: a rare disease that needs to be diagnosed. BMJ Case Reports CP. 2021 Mar 1;14(3):e242057.

Fail-implanted venous port catheter system: A rare cause of stroke

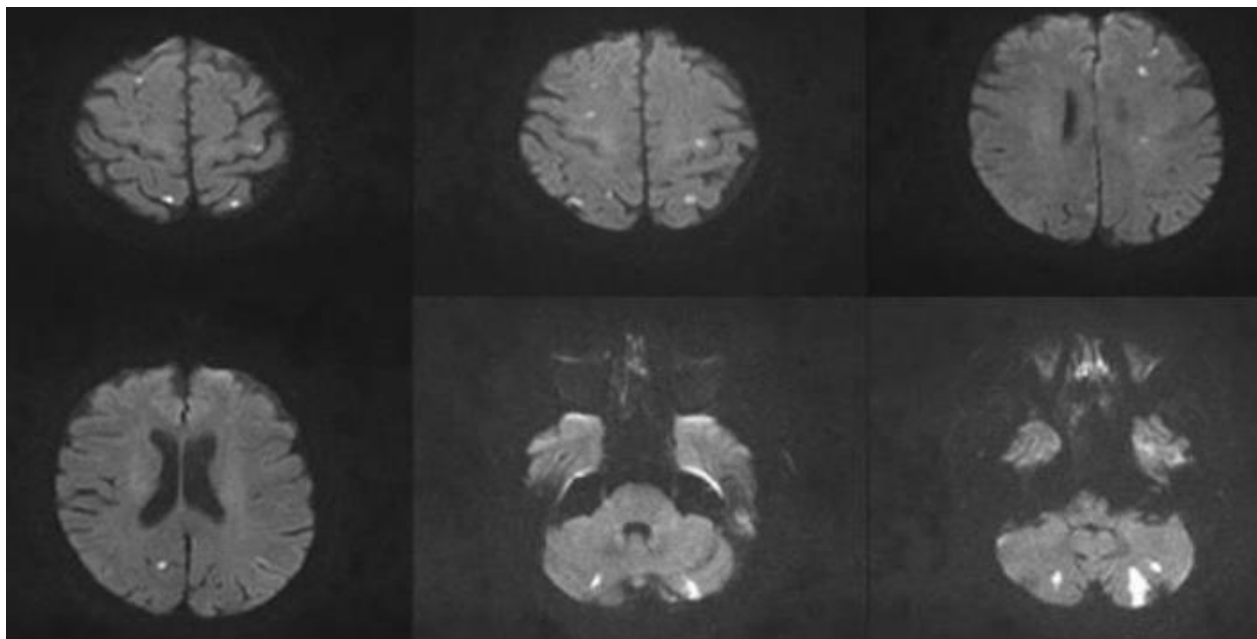
Patient description:

A female subject in her 70s was admitted to the hospital with the diagnosis of acute ischemic stroke after acute onset of a right-sided hemiparesis. Medical History revealed a short bowel syndrome after ascendojejunosomy with the necessity of diet therapy and parenteral nutritional supplementation via venous port catheter. A week before the patient was admitted to the hospital the percutaneous implantation of the venous port catheter in the left subclavian vein was performed. Due to catheter-associated complications like lumen occlusion and port-related infections several ports have been already been removed. A standard acute stroke diagnostic workup which consists of non-contrast cranial computed tomography (CT), a 24-h Holter Proportion of participants with $\geq 50\%$ pain relief or lower limb pain VAS score ≤ 3 cm. electrocardiography without indications for atrial fibrillation and transthoracic echocardiography revealing normal heart structures was performed. Laboratory results were all within normal paramters. Extracranial and intracranial duplex sonography indicated marginal atherosclerosis without hemodynamically effective stenosis. Antiplatelet (aspirin) and statin medication was initiated as a secondary prophylaxis. To minimise the risk of venous thrombosis a Low-dose enoxaparin was also prescribed. Physical therapy was regularly performed and arm function improved during the first 48 hours. Acute onset weakness of the left upper and lower limb, including mild cerebellar signs on the left side was present 2 days after the admission. Brain magnetic resonance imaging (MRI) revealed multiple small ischemic lesions bilaterally in the

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cerebellum as well as in subcortical and cortical areas of the cerebral hemispheres which was affecting the supplying territory of arteries in the anterior and posterior circulation on both sides. Before injecting a small. Intraoperative angiography of the aortic arch via port catheter system amount of saline solution into the port. The patency of the system was verified by cautious aspiration.



Axial DWI-MRI displaying hyperintense signals in both hemispheres in the cerebral cortex, subcortex and in the cerebellum

An arterially misplaced port catheter was suspected. The subject was taken immediately to a vascular surgery department. Conventional angiography was done which showed an arterially placed catheter which was later removed during an open surgical exploration. Neurological status was improved. She was then transferred to a rehabilitation center after implantation of a new central venous access port device. The patient recovered completely without any neurologic deficit 3 weeks after admission.

Conclusion:

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This case report highlights the symptoms of embolic cerebral infarction related to an arterially misplaced port catheter. It also emphasizes the imperative need for a thorough diagnostic workup when embolism is suspected but cannot be proven by standard diagnostic stroke workup.

Reference:

Yeniguen M, Braun T, Vlajak A, Umscheid T, Juenemann M, Gerriets T, Tschernatsch M. A rare cause of stroke: fail-implanted venous port catheter system—a case report. BMC neurology. 2021 April;21(1):1-4.



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