

## **16. CNS Lymphoma- A Review and Characteristic Imaging findings.**

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### **Purpose**

Learning points:

1. Aetiology and Types of CNS lymphoma – Primary, Secondary, Angioinvasive.
2. Characteristic findings and locations on CT and MR.
3. Tips for diagnosis.
4. New techniques.

### **Methods and Materials**

Review of clinical, haematological and imaging findings in a case series of primary, secondary and intravascular (angioinvasive) CNS lymphoma.

### **Results**

CNS lymphoma may be primary (PCNSL) or secondary. PCNSL accounts for 1-5% of brain tumours. There is an increased risk of secondary CNS involvement in the immunocompromised host. We will demonstrate the imaging characteristics of both primary, secondary and angioinvasive lymphoma and provide diagnostic tips for differentiating lesions including; PCNSL in the immunocompetent patient versus the immunocompromised, primary from secondary and angioinvasive CNS lymphoma and also CNS lymphoma from other brain lesions.

Imaging findings:

Primary CNS lymphomas typically present as parenchymal lesions which have a characteristic appearance due to hypercellularity and disruption of BBB. They have a predilection for periventricular and superficial regions, often in contact with ventricular and meningeal surfaces.

Secondary CNS lymphomas in contrast will in 2/3s present with leptomeningeal metastases and in 1/3 with parenchymal metastases. Leptomeningeal metastases can be seen as enhancing superficial, leptomeningeal, subependymal and dural lesions or present with cranial nerve enhancement.

Angioinvasive lymphoma is usually located at grey-white matter junctions or in periventricular regions and often contain blood products- identified as blooming artifact on T2 GRE sequences.