

# A Case of Balo's Concentric Sclerosis with Typical MRI Findings and Complete Resolution of the Lesion Following Treatment

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## INTRODUCTION

- Balo's Concentric Sclerosis (BCS) is a rare and severe demyelinating disease of the central nervous system (CNS), and it is often viewed as a variant of multiple sclerosis (MS).
- The typical lesion in BCS is characterized by concentric layers of demyelination alternating with layers of preserved myelin and is known as the "onion bulb" appearance.
- It was thought that BCS represents an aggressive MS variant with poor prognosis.
- However, recent literature contradicts prior observations. We present a case of BCS with typical MRI findings and complete resolution of the lesion following treatment.

## OBJECTIVE

- To report a case of Balo's concentric sclerosis which resolved completely after treatment with steroid and plasmapheresis.

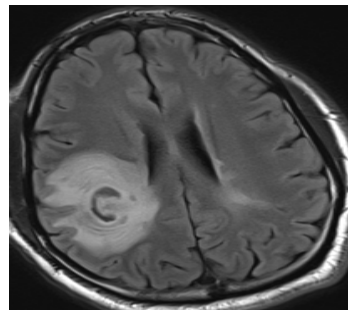
## PATEINT'S CLINCIAL HISTORY

- A 46-year-old man noticed numbness and tingling in his right upper extremity and left hand, followed by left eye visual impairment. MRI scan of the brain showed a lesion in left peritrigonal region, ovoid in shape, measuring 7-8 mm.
- Multiple patchy T2 lesions were also found in the cervical spinal cord at C5 with somewhat patchy distribution and no abnormal enhancement.
- CSF analysis was significant for more than 3 unique oligoclonal bands.
- CT of the chest was negative for hilar or mediastinal lymphadenopathy. The diagnosis of relapsing remitting multiple sclerosis (RRMS) was made.

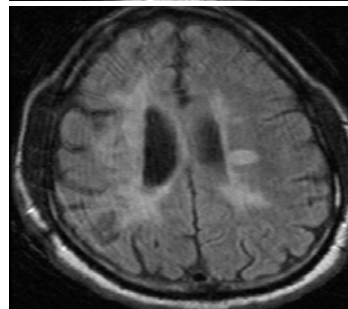
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- A year later, following an MS relapse, repeat MRI scan of the brain showed a small enhancing focus at the posterior level of the Sylvian fissure on the right side, otherwise it was unchanged.
- Three years later, the patient experienced a severe relapse with new left-sided weakness and hemiparetic gait. MRI scan showed classic BCS appearance with alternating hypo and hyperintense rings. The patient was treated with IV methylprednisolone with some improvement, followed by 6 sessions of plasmapheresis.

## RESULTS



**Figure 1: MRI brain from 2008 showing balo's concentric sclerosis with few ovoid periventricular lesions**



**Figure 2: MRI brain from 2013 showed resolution of balo's concentric sclerosis and only few ovoid lesions in periventricular distribution.**

## RESULTS

- After treatment with steroids and plasma exchange, the patient's disease course has been benign with only residual left hemiparesis and total resolution of the original Balo-like lesion.
- A follow-up MRI scan showed total resolution of the original BCS lesion.

## DISCUSSION

- We present this case of BCS to shed light on this rare subtype of MS.
- Our case adds more evidence that new BCS can arise in the background of typical MS.
- This case also highlights its potential benign course after treatment with corticosteroids and plasma exchange.

## REFERENCES

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