

# OSSIFICATION OF THE THORACIC POSTERIOR LONGITUDINAL LIGAMENT (OPLL) FROM AXIAL SPONDYLARTHROSIS (AXSPA)- A CASE REPORT

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## CASE PRESENTATION

- A 55-year-old Malaysian female who was referred for a worsening nocturnal thoracic back pain and early morning stiffness (>40 minutes) for more than 4 years.
- The pain occurred more frequently during the night and often woke her up from her sleep.
- For the past 1 year, she started experiencing a similar lumbar and left buttock pain, which improves with spinal movements and exercise. However, there was no evidence of any peripheral arthritis, nail changes, skin psoriasis and gastrointestinal symptoms.
- There was no prior history suggestive of an anterior uveitis or enthesitis. There was no family history of ankylosing spondylitis and other seronegative spondylarthritides.
- Physical examination revealed reduced forward flexion, lateral flexions and extension of the thoracic and lumbar spine, without any palpable tenderness at the sacroiliac joints. There was radiculopathy down her bilateral lower limbs.
- Her MRI thoracic spine demonstrated OPLL and thickening of the ligamentum flavum from T9 to T12, indenting into the thecal sac causing a mild spinal canal stenosis.
- Her MRI lumbar spine demonstrated irregularity of the bony outline of the sacroiliac joints with minimal adjacent marrow oedema.
- There was a history of a prolonged usage of NSAIDs prior to her first orthopedic consultation.
- Her initial CRP and ESR levels were normal. Her HLA B27 was negative.
- She fulfilled the Modified New York Criteria for Ankylosing Spondylitis 1984 and the ASAS Classification Criteria for Axial Spondylarthrosis.
- She received radiofrequency ablations to the thoracic spine, with a T10 and T11 nerve root block.
- However, her thoracic, lumbar and buttock pain improved significantly more with Intravenous Golumumab.
- Her initial ASDAS CRP score improved from 2.5 to 1.3.

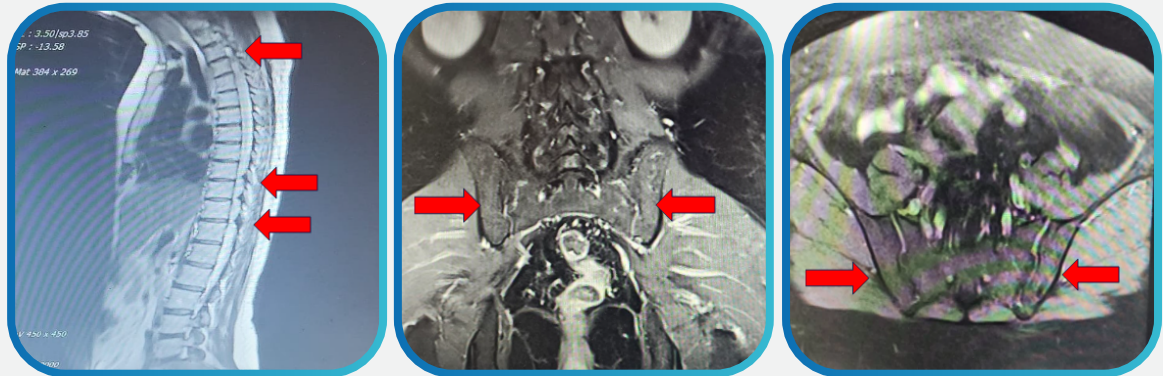
## BACKGROUND

- Ossification of the Posterior Longitudinal Ligament (OPLL) is an abnormal calcification of the ligament.
- It normally occurs over the cervical spine, with severe cases having the lesion compressing on the spinal cord, resulting in myelopathy and neurological deficits.
- Its true pathogenesis is still unclear.
- However, instances of it occurring with ankylosing spondylitis, diffuse idiopathic skeletal hyperostosis (DISH) and other seronegative spondyloarthropathies have rarely been reported.

## LABORATORY INVESTIGATIONS

	Reference Range	8/6/2021	10/6/2024	29/8/2024
Hb	11.5-16 g/dL	12.4	12	12.9
MCV	76-103 fL	80	84	86
WCC	4.3-10.5 x10 <sup>3</sup> /μL	7.8	7.8	7.8
Platelet	150-450 x 10 <sup>3</sup> /μL	201	210	187
ESR	0-30 mm/hr	2	2	2
CRP	<5 mg/L		2.13	1.1
Albumin	35-50 g/dL	44	43	47
Total Protein	63-83 g/dL	72	67	72

## RADIOLOGY



## DISCUSSION

- The types of ossification in OPLL can be broadly divided into a segmental, continuous, localized and a mixed one.
- There is a limited number of studies that help illustrate the frequency of OPLL in patients with ankylosing spondylitis (AS) and other seronegative arthritis.
- A Korean study demonstrated that the frequency of OPLL in patients with AS to be 3.5%. (1)
- Other studies demonstrated this occurrence and in other related arthritis to be 15.5- 29% instead. (2) (3)
- This discrepancy may be attributed to a difference in genetic backgrounds and demographic factors such as in the age and gender ratio of the respective studies. (1)
- Many clinical studies also suggested OPLL is a multifactorial disease, involving an interplay between complex genetic and environmental factors.
- A CT study on the progression of OPLL showed an average rate of ossification increase to be 4.1% per year. (4)
- The management of OPLL involves regular physiotherapy and a regular usage of anti-inflammatories. However, once myelopathy develops, surgery should be considered. (5)

## CONCLUSION

- OPLL is more of a common cause of myelopathy in people of Asian descent, in comparison to the West.
- An increase in age is the most common variable across literatures that coincides with a higher probability of developing OPLL.
- It is best evaluated by Computed Tomography (CT) and MRI of the spine.
- It could arise from both a chronic degenerative and inflammatory spine disease

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