

Triple Trouble - Obesity, Liver Cirrhosis and Pneumocephalus in Instrumented Lumbar Surgery

¹Daniel D.; ²Hishamuddin S.

¹Orthopaedic Department, Hospital Tengku Ampuan Afzan, Kuantan, Malaysia, ²Orthopaedic Department, Hospital Sultanah Aminah, Johor Bahru, Malaysia

INTRODUCTION:

Surgical site infections (SSI) are prevalent, affecting about 2% of cases, with obesity and liver cirrhosis as notable risk factors. Pneumocephalus, emerging in SSI, exacerbates complications. Here, we report a rare case of pneumocephalus following spinal surgery in an obese, cirrhotic patient.

REPORT:

A 64-year-old male, suffering from obesity and complicated by underlying liver cirrhosis, diabetes mellitus, and hypertension, presented with a delayed onset of lower limb paralysis six weeks after a fall. His condition was complicated by instability back pain, along with bowel and bladder incontinence. Upon examination, it was evident that he had an incomplete neurological deficit from L3 downwards. Radiographic imaging revealed a burst fracture of the L3 vertebra, and MRI of the lumbosacral region indicated retropulsion of L3 with canal stenosis. The patient also presented with multiple comorbidities, including anemia, hypoalbuminemia, stasis dermatitis, and esophageal varices, all of which needed optimization before considering surgical intervention. Given the patient's circumstances, surgical intervention was deemed necessary for pain management and rehabilitation, as no suitable orthosis could accommodate his body habitus. The posterior lumbar stabilization procedure was performed successfully two weeks later. However, postoperatively, complications arose as the implant failed, leading to a surgical site infection. The patient's condition deteriorated, manifesting as increased delirium and agitation. A CT scan of the brain revealed diffuse pneumocephalus, ultimately resulting in the patient's unfortunate demise.

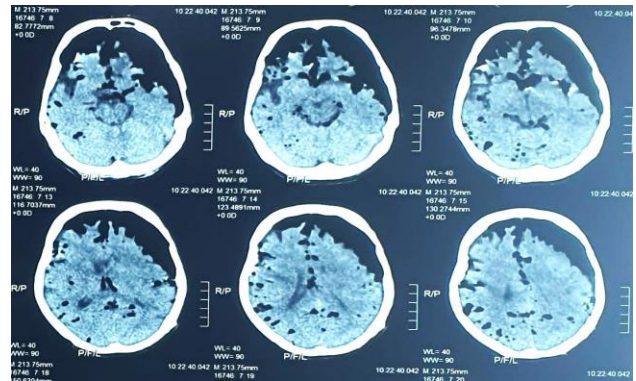


Figure 1: CT scan showed massive pneumocephalus

CONCLUSION:

Pneumocephalus is a rare complication after spinal surgery. It can be challenging to identify and, therefore requires a high index of suspicion. Additionally, obesity and liver cirrhosis are significant factors that increase the likelihood of complications and mortality during hospitalization for spinal fusion surgeries. These findings have implications for making surgical decisions, counselling patients, and managing their health before and after surgery.

REFERENCES:

1. Lu et al (2020). Impact of cirrhosis on morbidity and mortality after spinal fusion. *Global Spine Journal*, 10(7), 851-855.
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