

# Anti-Hu Antibody- and Anti-Zic4 Antibody-Positive Paraneoplastic Neurological Syndrome Presenting with Cerebellar Degeneration and Cranial Neuropathy: A Case Report

Ioannis Kourtesis<sup>†</sup>, Maria Orianou, Yannis Asteris, Gerasimos Georgatos and Maria Maltezou

*Department of Neurology*

paravertebral extension (Figure 1). Another hypermetabolic lesion was found in contact with the esophageal wall under the tracheal carina (DAY 23) (Figure 2). A subsequent Tc 99m bone scintigraphy showed increased tracer uptake at T12 and skull (possibly because of hyperostosis frontalis interna) (DAY 28) and contrast enhanced MRI of the thoracic spine showed increased signal intensity at T12 and a soft tissue mass on the left of the vertebrae which caused spinal cord compression (DAY 30) (Figure 3). Finally, CT scan of the thoracic spine revealed a mass with soft tissue density from T11 till S1 causing spinal cord compression (DAY 36). Biopsy of the above-mentioned lesion confirmed soft tissue malignancy of metastatic Small Cell Lung Cancer (SCLC) (DAY 47).

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## Statement of Ethics

The patient's family provided both oral and written informed consent for the publishing of this report.

## Disclosure Statement

The authors have no conflicts of interest to declare.

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## Authors' Contributions

Corresponding author: Ioannis Kourtesis, Writing - Original Draft  
Maria Orianou: Writing- Reviewing and Editing  
Yannis Asteris: Data Curation  
Gerasimos Georgatos: Software, Maria Maltezou: Conceptualization

## References

1. Aly R, Emmady PD (2020) Paraneoplastic Cerebellar Degeneration. StatPearls
2. Bataller L, Wade DF, Graus F, Stacey HD, Rosenfeld, et al. (2004) Antibodies to Zic4 in Paraneoplastic Neurologic Disorders and Small-Cell Lung Cancer. *Neurol* 62: 778-782.
3. Elrington GM, Murray NM, Spiro SG, Davis JN (1991) Neurological Paraneoplastic Syndromes in Patients with Small Cell Lung Cancer. A Prospective Survey of 150 Patients. *J Neurol Neurosurg and Psychiatry* 54: 764-767.
4. Honnorat J, Antoine JC (2007) Paraneoplastic Neurological Syndromes. *Orphanet J Rare Dis* :1-8.
5. Li J, Lin W (2018) Various Clinical Features Of Patients With Anti-Hu Associated Paraneoplastic Neurological Syndromes: An Observational Study. *Medicine* 97: e0649–e0649.
6. Mawhinney E, Gray OM, cVerry FM, McDonnell GV (2010) Paraneoplastic Sensorimotor Neuropathy Associated with Regression of Small Cell Lung Carcinoma. *BMJ Case Rep*.
7. Mirouse A, Gobert D, Chamouard JM, Lord L, Mekinian A, et al. (2014) Sudden death occurring after anti-Hu associated paraneoplastic cerebellar degeneration and dysautonomia revealing a small cell lung carcinoma. *Rev Med Interne* 35: 757–759.
8. Saiz A, Stourac P, Giometto B, Grisold W, Honnarat J, et al. (2009) Anti-Hu-Associated Brainstem Encephalitis. *Journal of neurology, neurosurgery, and psychiatry* 80: 404–407.
9. Shams' ili S, Grefkens J, de Leeuw B, Van den Bent M, Hooijkaas H, et al. (2003) Paraneoplastic Cerebellar Degeneration Associated With Antineuronal Antibodies: Analysis Of 50 Patients. *Brain* 126: 1409-1418.
10. Sharobeam A, Ray J, Dong J, Chong V (2017) Subacute Cerebellar