

OWEN FLANAGAN: So my name is Owen Flanagan. And I'm an assistant professor of neurology at Mayo Clinic, and I'm also an autoimmune neurology fellow here. And I'm going to talk about a paper upcoming in the Mayo Clinic proceedings called 18-fluorodeoxyglucose positron emission tomography in patients with active myelopathy.

So as an overview of this research study and as a background to this, we know that in some patients with spinal cord disease, it's difficult to discern what the underlying ideology is. And we know that pathological diagnosis by spinal cord biopsy quite risky. So therefore, it will be useful to have additional tools that could help us diagnose patients who have spinal cord disease without the need for a spinal cord biopsy.

So what we did was we looked at 51 patients at Mayo Clinic retrospectively who had an active myelopathy and we also had a PET scan performed. And we had two blinded radiologists review those PET scans. And we looked for the degree of agreement with those. And we also looked at the findings of the metabolism within the spinal cord in those with lesions within the spinal cord.

And what we had was three groups. The first was neoplastic myelopathies, these which would include things like lymphoma in the spinal cord, primary tumors of the spinal cord-- such as astrocytomas-- or metastatic lesions within the spinal cord. The second group we looked at was inflammatory lesions. We looked at patients with disorders like multiple sclerosis, transverse myelitis, or perennial neoplastic disease within the cord, and then the third group of patients was a group of patients with neurosarcoidosis within the spinal cord. We only had a small number with that group. So it was difficult to make comparisons.

But what we found overall was, first of all, that radiologist could with a good degree of reliability detect hypermetabolism within the spinal cord. And it was excellent agreement between the two radiologists in our study for hypermetabolism within the spinal cord. And what we also found was that hypermetabolism was more common in those with neoplastic than those with inflammatory myelopathies.

For clinical practice, I think this has some possible implications. Firstly, we know that in patients who have spinal cord disease, they often undergo a number of investigations such as MRI scans of the spinal cord. They also undergo blood tests, spinal fluid analysis, and then it will be helpful to have additional tools that may help the diagnosis.

And in our study, we found that PET scans may increase the suspicion of a neoplastic disorder within the spinal cord compared to those with inflammatory lesions. So this may be a helpful additional diagnostic tool for patients in the future. Although, further studies are needed.

Our study was a retrospective study. And I think, in future, prospective studies are needed to evaluate these patients and determine-- and determine if this finding can be confirmed that neoplastic disorders tend to have more hypermetabolism than those with inflammatory disorders. So overall, I think our study has a couple of takeaway points. Firstly is that hypermetabolism can be reliably detected among experienced radiologists within the spinal cord and secondly is that metabolism is more common in patients with neoplastic causes of myelopathy than those with inflammatory causes of myelopathy.

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