A Case of Creutzfeldt-Jakob Disease Presenting With Depression and Anxiety

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A Case of Creutzfeldt-Jakob Disease Presenting With Depression and Anxiety

INTRODUCTION
Psychiatric complaints are common reasons for presentation to the Emergency Department (ED). Several psychiatric referral biases of such visits by 4-6% of all ED visits. Many patients presenting with psychiatric complaints are otherwise healthy; however, it is common practice for the ED to determine if a patient is medically stable for psychiatric admission.

CASE REPORT
ANDREW J. DAVIS
The patient is a 53-year-old male presenting to the ED with complaints of difficulty concentrating and feeling irritable.

PHYSICAL EXAM

- Normal vital signs
- He is thin, Caucasian male appearing debilitated although is normocytic and anemic
- Cranial nerves intact; neurologic examination is normal other than low, tangential speech.
- The heart has a regular rate and rhythm with intact distal pulses.
- Rash sounds and respiratory effort are normal.
- The abdomen examination is normal.
- There is no rash.

The patient described suicidal ideation with plan.

Figure 1: MRI Brain without Contrast
Diffusion-weighted imaging showing high signal intensity on the right caudate nucleus.

TABLE 1: WHO CRITERIA FOR DIAGNOSIS

<table>
<thead>
<tr>
<th>CRITERIA</th>
<th>DIAGNOSIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Severe headache or focal neurological deficit</td>
<td>Probable CJD</td>
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<tr>
<td>2. Visual or cerebellar signs</td>
<td>Probable CJD</td>
</tr>
<tr>
<td>3. Pyramidal/extrapyramidal signs</td>
<td>Probable CJD</td>
</tr>
<tr>
<td>4. Cataract extraction with intraocular lens implantation</td>
<td>Probable CJD</td>
</tr>
<tr>
<td>5. Depression</td>
<td>Probable CJD</td>
</tr>
<tr>
<td>6. Gastroesophageal reflux disease (GERD)</td>
<td>Probable CJD</td>
</tr>
<tr>
<td>7. Myelodysplastic syndrome</td>
<td>Probable CJD</td>
</tr>
</tbody>
</table>

CLINICAL COURSE

- Initial laboratory testing including toxicology is unremarkable.
- Due to the chest pain, the patient was medically cleared after two negative troponins, normal EKG, and normal chest X-ray.
- He signed a voluntary commitment for psychiatric treatment and was admitted to the medical psychiatry service.

CONCLUSION

This case is important to the ED because it highlights the importance of the history of the present illness. In this case, the rapid progression of symptoms and the patient’s psychiatric presentation were concerning enough to prompt an altered mental status evaluation. This case illustrates the need for correlation of clinical history, EEG and CSF. This is important in the early diagnosis and management of Creutzfeldt-Jakob disease, particularly in the absence of a positive result for any of the three laboratory tests that would classify a case as “probable” (see tests a-c above).

DISCUSSION

CJD is one of the major causes of rapid progressive dementia. CJD is a fatal neurodegenerative disease affecting humans and animals. It is caused by an abnormal accumulation and replication of prion protein in brain tissue and results in the production of prion-to-prion mutant protein, which causes nerve damage. It is believed that the protein may cause small vacuoles in neuronal cell bodies, axons, dendrites which may be the cause of nerve damage resulting in various clinical presentations. One person is affected per one million per year. There are no gender biases. It typically occurs in people over the age of 40 and can be transmitted by surgical, familial, iatrogenic, and variant means.

CJD occurring without a known source is called sporadic CJD which is the most common cause. Iatrogenic CJD may be related to corneal transplantation, dental grafts, application of infected electric junctions of growth hormone or gonadotropins obtained from cadaveric pituitary glands. Type 2 of CJD is characterized by psychiatric symptoms at an earlier stage with a longer clinical deterioration and death at a younger age. Our patient may have had the variant sporadic form. Finally, one third of cases show start with depression, emotional lability, and psychiatric symptoms. Depression and anxiety are common symptoms of CJD occurring without a known source.

The differential diagnosis for altered mental status and abnormal neurologic examination is quite extensive. Many causes of rapid onset dementia are more common than sporadic Creutzfeldt-Jakob disease (CJD). Neuropsychiatric disorders are the most important differential diagnoses for CJD. The rapid clinical progression of dementia symptoms and to begin work-up in consultation with other specialties including neurology.

When evaluating a patient with suspected CJD or other rapid progressive dementias, the work-up should include a complete blood counts (CBC), comprehensive metabolic panel (CMP), thyroid function and computed tomography (CT) of the brain, in consultation with neurology, other diagnostic studies may be warranted. These may include serology for neurosyphilis, paraneoplastic antibodies, limbic encephalitis, MRI of the brain, with axial DWI diffusion weighted imaging, FLAIR fluid attenuated inversion recovery (FLAIR) or diffusion- weighted image showing high signal intensity on the right caudate nucleus. See MRI image.

CONCLUSION

CJD is a diagnosis that should be considered in the differential diagnosis of rapidly progressive dementia. When a patient presents with rapidly progressive dementia and to begin work-up in consultation with other specialties including neurology.

This case is important to the ED because it highlights the importance of the history of the present illness. In this case, the rapid progression of symptoms and the patient’s psychiatric presentation were concerning enough to prompt an altered mental status evaluation. This case illustrates the need for correlation of clinical history, EEG and CSF. This is important in the early diagnosis and management of Creutzfeldt-Jakob disease, particularly in the absence of a positive result for any of the three laboratory tests that would classify a case as “probable” (see tests a-c above).

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REFERENCES