Pernicious anaemia presenting as catatonia without signs of anaemia or macrocytosis

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Summary

Pernicious anaemia can present with psychiatric symptoms before haematological or neurological manifestations appear. We describe a young woman who presented with insidious onset catatonia without evidence of psychosis or depression. Blood count and mean cell volume were normal and neurological findings were equivocal. Low B₁₂ levels and intrinsic factor antibodies were found only by chance when they were included in a battery of further investigations. B₁₂ replacement was followed by prompt improvement. This case provides an argument for wider screening for B₁₂ deficiency in certain individuals with psychiatric disorders.

Declaration of interest

None.

Psychiatric disturbance was alluded to in Addison’s original description of pernicious anaemia, and nowadays the disorder is recognised as being associated with depression, mania, psychosis and dementia.¹ It is also known that psychiatric symptoms can precede the onset of anaemia or neurological features and can sometimes be seen in the absence of macrocytosis.² A case report has recently added catatonia to the list of psychiatric syndromes associated with B₁₂ deficiency.² Here we present a further case, where catatonia was the presenting – and only – psychiatric feature of what turned out to be autoimmune B₁₂ deficiency. Haematological abnormality was absent and neurological abnormality was subtle to the point of being easy to dismiss.

Method

A 27-year-old single croupier and singer of mixed race was compulsorily admitted after she was found to be living in a flat with no heating and electricity. She had stopped working around a year previously and had become withdrawn. There was no previous medical or psychiatric history. In hospital she was noted to be unkempt and vague; she would often stare blankly into space, had no spontaneous interaction with others, and at times was doubly incontinent. However, no affective or psychotic symptoms were elicited. She was treated with olanzapine with slight improvement. She was discharged by a mental health tribunal and then became lost to follow-up.

She was readmitted 6 months later, again in a state of self-neglect. She was very slow to initiate movements, took a long time to get out of bed, and would stand in the same position for long periods in the ward, often with her arms folded across her chest. She also followed members of staff around the ward repeating answers to questions. She showed echolalia. Her affect was impassive and any changes of facial expression were few and slow. As previously, no psychotic or depressive symptoms could be elicited.

Neurological examination revealed a left palmo-mental reflex and a right upgoing plantar. She also had a positive Luria’s (fist-edge-palm) test. Cognitively, she scored 67/100 on the Addenbrooke’s Cognitive Examination–Revised (ACE–R)³ (fist–edge–palm) test. Memory Test,⁴ normal range

Results

Olanzapine, which had been recommenced shortly after admission (in addition to diazepam), did not result in obvious improvement over 4 weeks. However, less than 10 days after starting on hydroxycobalamine (intramuscularly, at a dosage of 1 mg on alternate days for 10 days), nursing staff commented on a marked improvement in her behaviour and self-care. Her Addenbrooke’s score (on parallel versions of the ACE–R) was 80/100 2 weeks after commencement of treatment and 90/100 4 weeks later. Digit span after 10 weeks of treatment was 6 forwards and 5 backwards. However, less than 10 days after starting on hydroxycobalamine injection, she had a brief, 2-week...
B12 deficiency can cause cognitive impairment up to and including dementia; the degree to which this improves with B12 replacement is variable, with 1 year having been suggested as a watershed for reversibility. This woman’s case adds to the literature documenting the occurrence of catatonia in a wide range of systemic diseases, and supports the view that it is an independent psychiatric entity, not one that develops only in the context of a schizophrenic or affective syndrome. It also provides an argument that vitamin B12 deficiency should be considered in any person with an unusual psychiatric presentation, not only when this is ‘organic’, and regardless of the absence of macrocytosis or anaemia. This is particularly important since delayed diagnosis can be associated with lack of reversibility.

Discussion

This individual presented with marked social decline, self-neglect and later developed full-blown catatonic symptoms without evidence of psychotic or affective symptoms. Her neurological abnormalities were minimal, and whether there was any abnormality on brain imaging became the subject of debate among the clinicians and neuroradiologists involved in her case. Olanzapine brought about no improvement over 4 weeks but after reinstitution of olanzapine and vitamin B12 injections, is out of hospital, lives independently in her own flat and is planning to enrol in a music course.

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References

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