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. 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. A case report has recently added catatonia to the list of psychiatric syndromes associated with B₁₂ deficiency. 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 She had stopped working around a year previously and had become withdrawn.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 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 what they said. During an interview, she spent the whole time sitting in an erect posture in her chair with her hands clasped in a praying position. Her speech was reduced to greetings and giving 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), which measures ability to inhibit prepotent responses (error score 43, scaled score 1), and the Brixton Test, a rule-shifting test conceptually similar to the Wisconsin Card Sorting Test (error score 39, scaled score 1).

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 and 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 and 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 and 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 and 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.

Declaration of interest
None.
period of catatonia, which resolved promptly to re-initiation of olanzapine. Currently, she is continuing to receive olanzapine and vitamin B₁₂ injections, is out of hospital, lives independently in her own flat and is planning to enrol in a music course.

**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 pernicious anaemia was diagnosed hydroxycobalamine treatment was followed by rapid recovery.

A complicating factor was her relapse after discontinuing olanzapine and recovery after this drug was re-introduced. Two findings, however, argue against her having 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.

This person’s lack of anaemia and her (at most) subtle neurological signs meant that vitamin B₁₂ deficiency was not originally screened for. In 1988, Lindenbaum et al. questioned the existing orthodoxy that B₁₂ deficiency only presented with neurological disorder when anaemia was also present. They reviewed 141 people who were given a final diagnosis of clinical B₁₂ deficiency-related neurological symptoms and found that 40 (28%) had either no anaemia or no macrocytosis at initial presentation, and that in 19 (13%) both haematological indices were normal. Six further individuals had anaemia, but with an MCV that was normal or low (in four of these there were independent causes for this). In some of these people diagnosis was delayed for several months or years.

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.

**Fig. 1** Computed tomography scan.

**References**


**Funding**

P.J.M. is supported by the Instituto de Salud Carlos III, Centro de Investigación en Red de Salud Mental, CIBERSAM.

**Acknowledgements**

We thank the patient for giving permission to publish this case report.

**Correspondence:** S. Jauhar, Hairmyres Hospital, East Kilbride, Lanarkshire, G75 8RG, UK. Email: sameerjauhar@yahoo.co.uk
Pernicious anaemia presenting as catatonia without signs of anaemia or macrocytosis
Sameer Jauhar, Allison Blackett, Pavan Srireddy and Peter J. McKenna
BJP 2010, 197:244-245.
Access the most recent version at DOI: 10.1192/bjp.bp.108.054072

References
This article cites 7 articles, 1 of which you can access for free at:
http://bjp.rcpsych.org/content/197/3/244#BIBL

Reprints/permissions
To obtain reprints or permission to reproduce material from this paper, please write to permissions@rcpsych.ac.uk

You can respond to this article at
/letters/submit/bjprcpsych;197/3/244

Downloaded from
http://bjp.rcpsych.org/ on April 8, 2017
Published by The Royal College of Psychiatrists