opiates, with antiparkinsonian treatments implicated in a minority of cases [4]. Although myoclonus can occur in patients with Parkinson’s disease, multiple system atrophy, corticobasal degeneration and Lewy body dementia [5], it is rarely seen in PSP [6]. There have been two previous case reports of myoclonus in patients with Parkinson’s disease on amantadine [7, 8], but to our knowledge only one other case has been reported in a case of probable PSP on amantadine [9], and this was cranial myoclonus, which contrasts with the generalised myoclonus reported here. The mechanism of action of amantadine is poorly understood, although its actions may be secondary to anti-glutaminergic properties and the antagonistic effect on NMDA receptors, increasing levels of dopamine release. The drug may precipitate myoclonus in individuals at risk, possibly by altering the degree of dopamine, serotonin or glutamate release. This case illustrates the importance of always asking the question ‘Could this phenomenon be drug induced?’

Key points

• Myoclonus is a hyperkinetic movement disorder that can be described as a brief shock-like movement.
• Myoclonus can be seen in some parkinsonian disorders but is rare in progressive supranuclear palsy (PSP).
• Neuropsychiatric medications can precipitate myoclonus, and here we report amantadine-induced myoclonus in a patient with PSP.

Conflicts of interest

None declared.

References


An unusual case of anaemia in an octogenarian

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Abstract

Older patients referred for further investigation of anaemia are common in a geriatric medicine clinic and it is important to consider a wide range of underlying diagnoses. We present an unusual case of anaemia in an octogenarian in whom a diagnosis of visceral leishmaniasis was made. This is a rare and unusual diagnosis in this cohort of patients, especially within the UK; however, it is important to identify it, given its high mortality if left untreated. Our case, presumably contracted
Unusual case of anaemia in an octogenarian

while in Andalucia, Spain, highlights the need for awareness in this group of patients, especially when travel within Europe is becoming commonplace.

**Keywords:** anaemia, weight loss, leishmaniasis, older people

**Case report**

An 86-year-old Indian lady with an extensive medical history including ischaemic heart disease, chronic kidney disease and type 2 diabetes mellitus, presented with a 6-month history of progressive cognitive impairment, lethargy, low mood and weight loss. The family also reported a change in bowel habit and fevers. Travel history included the Netherlands and India 9 years previously, and a rural area near Granada, Spain, 5 and 9 months prior to presentation.

On examination, our patient was frail with a weight of 42.7 kg and clinical evidence of anaemia and hepatosplenomegaly. Blood tests revealed a microcytic anaemia with haemoglobin 9.7 g/dl and MCV 79.7. ESR was 113 mm/h with a polyclonal rise in immunoglobulins and a raised ferritin, 1,257 ng/ml, suggesting an acute-phase response. Main differentials included occult blood loss, haematological disease and possible viral infection.

A gastroscopy showed macroscopic gastritis and oesophageal candida infection. Gastric and duodenal biopsies revealed sheets of macrophages with numerous small spore-like organisms in the lamina propria in keeping with leishmania amastigotes. Computerised tomography confirmed hepatosplenomegaly and a bone marrow biopsy confirmed a diagnosis of visceral leishmaniasis (VL) (Figure 1). Leishmaniasis serology was positive for *L. donovani*, *L. braziliensis* and Tropicalis IgG. Human immunodeficiency virus (HIV) screening was negative.

The patient was successfully treated with AmBisome resulting in a reduction in symptoms, improved cognition and increased haemoglobin levels.

**Discussion**

Leishmaniasis is a parasitic disease endemic in 88 countries, 72 of which are developing countries [1, 2]. It is caused by obligate intracellular protozoans of the Leishmania genus. Up to 30 species are known but *L. donovani*, *L. infantum* and *L. chagasi* are most commonly implicated [1, 3]. Transmission is through the bite of the female phlebotome sandfly [1, 4].

There are two main clinical syndromes. Cutaneous leishmaniasis results in skin ulceration which can be severely disfiguring but rarely fatal [1]. VL affects internal organs such as the liver, the spleen and the bone marrow with a significant mortality if untreated [1, 5, 6]. Globally, 12 million people are affected, with an estimated 2 million new cases/year in endemic regions, 500,000 attributable to VL. Reporting is mandatory in 32 of the 88 endemic countries and therefore VL remains grossly under-reported [1]. UK data from 1985 to 2004 revealed 39 imported cases, 83% of all UK cases, within the London Hospital for Tropical Diseases. Interestingly, 30 cases were contracted in Mediterranean countries, 13 specifically from Spain [7].

VL remains the only vector-borne disease endemic in Mediterranean countries, with a high prevalence of asymptomatic carriers and an important reservoir host in the domestic dog [3, 5]. There are concerns regarding the impact of global warming on the spread of other vector-borne diseases, e.g. Lyme disease/Malaria, which may become relevant for the elderly traveller in the future [3].

HIV represents an important risk factor for VL, with up to 70% co-infection [2]. Contributing factors also include malnutrition and neoplastic disorders, especially haematological malignancies [4]. Immunosuppressive therapy is a risk factor for VL and there are case reports involving newer biological agents such as anti-TNF therapy in the literature [8].

The treatment of leishmaniasis remains complex. In developed countries, liposomal amphotericin B remains the treatment of choice, but issues with cost, drug resistance and toxicity make treatment more challenging in developing countries. Further research is needed to ensure optimum treatment strategies [5].

We present a case of VL contracted in Spain as an unusual cause of anaemia in an elderly patient. Although...
rare within the UK, VL can be imported from southern Europe and may become more prevalent with increasing ease and popularity of European travel. Awareness of VL is essential for geriatricians to ensure the diagnosis is considered given the mortality if untreated and the efficacy of prompt treatment [9].

Key points

• Anaemia is a common finding in geriatric medicine, and investigation may provide an unusual cause.
• A thorough travel history is essential as foreign travel becomes easier in all age groups.
• Leishmaniasis may be imported to the UK from Mediterranean countries where it remains endemic.
• Though rare, VL may present with non-specific symptoms in elderly patients and should be treated promptly.

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