CASE REPORT

'Dancing eyes, dancing feet syndrome' in small cell lung carcinoma

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SUMMARY

A 60-year-old man presented with a 25-day history of acute onset instability of gait, tremulousness of limbs and involuntary eye movements. Examination revealed presence of opsoclonus, myoclonus and ataxia, without any loss of motor power in the limbs. Prompt investigations were directed towards identifying an underlying malignancy which is often associated with this type of clinical scenario. CT of the brain was normal and cerebrospinal fluid examination showed lymphocytic pleocytosis. A cavitary lesion was found in the right lung base on the high-resolution CT of the chest and histopathological examination of this lung mass showed small cell lung carcinoma. The patient was managed symptomatically with levetiracetam and baclofen and referred to oncology department for resection of the lung mass.

BACKGROUND

The clinical combination of opsoclonus, myoclonus and ataxia, also called the 'Dancing eyes, dancing feet syndrome' is so characteristic that mere identification of this constellation of clinical signs narrows down the differential diagnosis and speeds up the investigational workup of a patient. This case report thus highlights the importance of identifying this clinical syndrome with the help of a characteristic video. Also, this syndrome is often associated with an underlying malignancy; the other causes being of a rather benign nature. Hence, ruling out an associated malignancy should be the aim once this syndrome has been clinically identified.

CASE PRESENTATION

A 60-year-old man presented with a 25-day history of acute onset instability of gait and progressive difficulty in walking independently. A couple of days later, he developed tremulousness of all four limbs with continuous nodding movements of the neck, aggravated on sitting or standing and relieved on lying down. His relatives also reported that the patient would continuously keep blinking his eyelids and moving his eyes all the time; saying that his eyes were not in his control. There were no symptoms of headache, vomiting, diminution of vision, weakness of limbs or any systemic constitutional symptoms. His medical history was not significant. On examination, the patient was oriented to time, place, person and his vitals were normal. Speech was dysarthric. Examination of oculomotor cranial nerves revealed rapid, periodic, conjugated, chaotic eye movements, which were independent of

the eye position and occurred during ocular fixation, regardless of gaze direction ([video 1](#)). Other cranial nerve examination was normal. Motor system examination showed 5/5 MRC scale power in all limbs with normal tone. All the deep tendon reflexes were brisk bilaterally. Plantar response was flexor on both sides. Sensory system examination was normal. Examination of cerebellar functions showed ataxia of the trunk, limbs and gait. Also noted was the presence of stimulus sensitive myoclonus. Examination of other systems was normal.

INVESTIGATIONS

CT of the brain was normal ([figure 1](#)). Cerebrospinal fluid examination showed lymphocytic pleocytosis. Full blood count, serum chemistry, thyroid profiles were normal. HIV and double stranded DNA antibodies were negative. High-resolution CT (HRCT) of the chest revealed a thick-walled cavitary lesion in the right lung base with irregular spiculated margins ([figure 2](#)) with multiple enlarged lymph nodes in the pretracheal and paratracheal regions. CT of the abdomen was normal. Histopathological examination of CT-guided biopsy of the lung mass showed small cell lung carcinoma ([figure 3](#)). Assays for paraneoplastic antibodies were not performed as the patient did not consent to further testing, and remains a lacuna in the current case.

TREATMENT

The patient transferred to the oncology department for chemotherapy and possible resection of the lung tumour. For the opsoclonus and myoclonus,

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Video 1 In sequence – Involuntary brief jerky movements of all four limbs; myoclonus, with truncal ataxia; chaotic, conjugate saccadic eye movements in Opsoclonus.

Figure 1 Non-contrast CT of the brain (axial sections)—normal.

the patient was started on levetiracetam and baclofen; but showed little symptomatic benefit.

DISCUSSION

'Dancing eyes, dancing feet syndrome' also called the opsoclonus myoclonus syndrome (OMS)¹ includes opsoclonus along

Figure 2 High-resolution CT of the chest (axial section)—thick-walled cavitary lesion in the right lung base with irregular spiculated margins (white arrow).

with diffuse or focal body myoclonus and truncal titubation with or without ataxia and other cerebellar signs.

Opsoclonus, which is the only universal component of the syndrome, is a disorder of ocular motility characterised by spontaneous, arrhythmic, conjugate saccades occurring in all directions of gaze. In addition, myoclonus, a clinical sign that is characterised by brief, shock-like, involuntary movements caused by muscular contractions or inhibitions, occurs in a high percentage of patients. Pure opsoclonus may be seen in hyperosmolar states, Wernicke's encephalopathy and with toxic levels of many drugs. The OMS has different causes in children and adults. In children, the most common cause is usually a neuroblastoma. In adults, although OMS is commonly paraneoplastic in origin, it can also result from viral infections, post-streptococcal pharyngitis, metabolic disorders, metastases and intracranial haemorrhage. Among the cancers associated, the most common reported in the literature are breast carcinoma and small cell lung carcinoma; occasional associations are also seen with bronchial carcinoma, gastric carcinoma and lymphoma.²

With this case, we stress the utility of recognising this characteristic clinical syndrome. OMS is detected on mere inspection of the patient, as described above. Further efforts can then be directed towards searching for an underlying malignancy, which among the described causes of the syndrome, is the only aetiological consideration having long-term prognostic implications for a patient. Thus, an HRCT of the chest and abdomen in men, and gynaecological examination and mammography in women

Figure 3 CT-guided lung biopsy (H&E stain)—sheets and nests of small to medium sized round cells, possessing round to oval nuclei with fine chromatin and inconspicuous nucleoli. Nuclear moulding is present. Focally rosette formation by tumor cells noted on $\times 40$ image and necrosis on $\times 5$ image.

should be performed for screening purpose.³ When this evaluation is negative, fludeoxyglucose positron emission tomography should be considered. Hence, early detection of an underlying tumour is important, as the tumour therapy is not only necessary for the malignancy, but it is also the mainstay of manage-

ment of the OMS. No clear advantage of immune therapy (adrenocorticotropin hormone, steroids or intravenous immunoglobulin) has been demonstrated in adult OMS.³ Symptomatic therapy of the opsoclonus as well as the myoclonus includes various antiepileptic drugs, baclofen or propranolol.⁴

Learning points

- Opsoclonus is an important clinical sign to be conversant with: spontaneous, chaotic and conjugate saccades in all directions of gaze.
- Myoclonus in association with opsoclonus may serve as a pointer to a serious pathology, often an underlying malignancy.
- Initial investigations in adult patients suspected of opsoclonus myoclonus syndrome should be directed at tumours associated with this condition, most commonly in small cell lung carcinoma and breast carcinoma.

Contributors All the authors contributed to the planning, conduct and reporting of the work described in the article and are justifiably credited with authorship, according to the authorship criteria. All the authors read and approved the final manuscript. CS is the guarantor.

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REFERENCES

- 1 Sahu JK, Prasad K. The opsoclonus–myoclonus syndrome. *Pract Neurol* 2011;11:160–6.
- 2 Klaas JP, Ahlskog JE, Pittcock SJ, *et al.* Adult-onset opsoclonus-myoclonus syndrome. *Arch Neurol* 2012;69:1598–607.
- 3 Bataller L, Graus F, Saiz A, *et al.* Clinical outcome in adult onset idiopathic or paraneoplastic opsoclonus-myoclonus. *Brain* 2001;124:437–43.
- 4 Straube A, Leigh RJ, Bronstein A, *et al.* EFNS task force therapy of nystagmus and oscillopsia. *Eur J Neurol* 2004;11:83–9.

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