

G. Lahera Forteza
F. González Aguado

Psychotic mania after introduction of continuous positive airway pressure (CPAP) in the treatment of obstructive sleep apnoea

Hospital Príncipe de Asturias
Alcalá de Henares. Área 3
Madrid

Obstructive sleep apnoea syndrome (OSAS) affects 2-3% of the general population and originates from an occlusion of the upper airways at the level of the oropharynx in the presence of effort in the breathing muscles. Treatment includes general measures, the administration of drugs such as protryptilin, the use of continuous positive airway pressure (CPAP) through the nose and surgery in resistant cases. The measure most often indicated in moderate to severe cases is CPAP, which acts through a nasal device as a pneumatic valve and prevents the collapse of the upper airways.

It has been shown that, following the administration of CPAP, there is a reduction in daytime drowsiness, an improvement in daily performance, in psychosocial adjustment and in psychological symptoms, including an improvement in mood. In connection with these changes in affectiveness, there has been a report of a case of mania resulting from CPAP applied to a patient with OSAS and major depression¹, and another case of psychotic decompensation in a schizophrenic patient². On the other hand, OSAS has been linked with a complicated course of bipolar disorder and treatment-resistant mania^{3,4}.

A 44 year-old male (M.) came to the pneumology department due to daytime drowsiness that had caused him two traffic accidents. He smokes 13 packets a year, is an occasional drinker, has been diagnosed as having bronchial asthma and he presents considerable night-time snoring, difficulties in concentrating, irritableness and hypersomnolence. Epworth somnolence scale: 17/24; the polysomnographic recording gives: 163 obstructive apnoeas and hypoapnoeas in 6 hours and 26 minutes of sleep; apnoea/hypoapnoea index of 25.3; O₂ desaturation <90% during 11.6% of the time, with a minimum saturation of 76%; in-

tense and frequent snoring over 45% of the night. He was diagnosed as having severe sleep apnoea syndrome, chronic snoring disorder and obesity. Together with general measures application of CPAP through the nose was prescribed at 5 cm of H₂O during all sleep periods. On September 15th, 2001, the patient started treatment with CPAP.

M. had no prior psychiatric history. He has been married for the last 15 years, has a 14 year-old daughter and works in maintenance of heating and air conditioning systems. He has been with the same company for the last 14 years, with good performance. His mother suffered from postnatal depression 35 years ago; his father has also been treated for depression.

One month after introduction of CPAP, M. developed hyperactivity, irritability, increased of libido and decreased need for sleep, driving to paranoid delusional ideas in relation to the job partners. He started treatment with olanzapine 7.5 mg/day and lormetazepam 4.5 mg/day. Over the next 20-30 days there was a clear clinical improvement, with M. feeling more at ease, stable and criticizing his own delirious fixations of harm, after which he indulged in great sadness, tearfulness, self-blame and reproaches. In February 2002, he started to receive treatment with paroxetine 20 mg/day. Within a month and a half after the episode, the patient was asymptomatic.

In August 2003 he abandoned this treatment because he considered it inconvenient during the holidays. When he returned to work, he decided to return to normal and applied the CPAP again. After 15 days, he noted he felt restless, nervy, was sleeping less, and had the feeling that «something serious was happening». He once more distrusted his workmates, with the notion that they wanted to get rid of him. Remembering the symptoms suffered 2 years earlier, he went to see his psychiatrist, who diagnosed a manic syndrome.

This case is the first reference of a repeated association of treatment with CPAP and mania. It is noteworthy that the two manic decompensations have occurred after the introduction and reintroduction of CPAP and not with its

Correspondencia:
Guillermo Lahera Forteza
Hospital Príncipe de Asturias
Alcalá de Henares, área 3
Madrid
Correo electrónico: glahera@inicia.es

continuation, which might have consequences for the management of OSAS.

The case reported here provides arguments for a possible neurobiological connection between sleep alterations and the onset of affective problems. The presence of two cases of a family history of depressive episodes (and the absence of any personal affective history) places this patient in the model for vulnerability to mood disorders, resulting from the polymorphism in genes that are critical for regulating stress. This susceptibility might have been brought to light after the changes in sleep architecture induced by the CPAP. Another hypothesis suggested by this case is the induction of affective disorders due to sudden alterations in the concentration of gaseous elements in the blood, reported in the literature due to the onset of mania after the administration of O₂ under pressure to professional divers⁵.

REFERENCES

1. Hilleret H, Jeunet E, Osiek C, Mohr S, Blois R, Bertschy G. Mania resulting from continuous positive airways pressure in a depressed man with sep apnea síndrome. *Neuropsychobiology* 2001;43:221-4.
2. Chiner E, Arriero JM, Signes-Costa J, Marco J. Acute psychosis after CPAP treatment in a schizophrenic patient with sep apnoea-hipopnea síndrome. *Eur Respir J* 2001;17:313-5.
3. Strakowski SM, Hudson JI, Keck PE, Wilson DR, Frankenburg FR, Alpert JE, et al. Four cases of obstructive sleep apnea associated with treatment-resistant mania. *J Clin Psychiatry* 1991;52:4.
4. Fleming JAE, Fleetham JA, Taylor DR, Remick RA. A case report of obstructive sleep apnea in a patient with bipolar affective disorder. *Can J Psychiatry* 1985;30.
5. Stoudemire A, Miller J, Schmitt F, Logue P, Shelton D, Latson G, et al. Development of an organic affective syndrome during a hyperbaric diving experiment. *Am J Psychiatry* 1984;141:1251-4.