

Sleep apnoea and related conditions

SUMMARY OF A REPORT OF A WORKING PARTY OF THE ROYAL COLLEGE OF PHYSICIANS

The consequences of sleep-wake disorders are of relevance not only to patients and physicians but also to public health officers, industries, legal authorities and economists. Their successful management produces major benefit in all these areas.

Among the most common sleep-wake disorders, obstructive apnoea is a serious and potentially life threatening illness; the narcoleptic syndrome is a life-long condition comparable in severity to epilepsy; insomnia is a major cause of grief, misery and poor working performance. This report concentrates on obstructive sleep apnoea (OSA).

Obstructive sleep apnoea

In individuals with OSA, repeated obstruction of the pharyngeal airway develops during sleep. Respiratory efforts continue during the obstruction and breathing resumes only when the subject arouses briefly—so briefly that he may not be aware of it; he then takes a few breaths before falling asleep, and then obstruction recurs. This cycle can be repeated hundreds of times during the night, disrupting sleep and, as a result, causing daytime sleepiness. In time this may lead to poor memory and concentration, irritability, personality change, marital discord and impairment or loss of employment.

OSA is most common in middle-aged obese men but is by no means confined to that group. It is more common among snorers. Previous estimates of its prevalence varied between 1% and 3% of middle-aged men. A more recent community review suggests that the prevalence may be as high as 9% of men and 4% of women.

Of particular concern is sleepiness whilst driving, and it is well established that there is a greater risk of road accidents among individuals with OSA. A recent study by Leicestershire police suggested that about 20% of accidents on motorways in that county were apparently due to motorists falling asleep and this cause may be second only to alcohol in leading to road

accidents. Sleep apnoea causing daytime drowsiness can have serious medico-legal consequences where driving and employment are concerned.

Diagnosis

Diagnosis of OSA depends first on the medical history from that patient and bed companion or from a person sleeping nearby; second, on studies on the patient during sleep. In some patients the diagnosis can be made on observation and a 'limited' sleep study using simple measurements of physiological variables such as blood oxygen saturation. In many patients, however, the diagnosis of the sleep disorder is less clear and the use of polysomnography in a sleep laboratory is required. Whatever method is used, it is essential that the physician and support staff are trained and experienced in the diagnosis and management of sleep disorders.

Treatment

Measures which help some patients include weight loss in obese individuals, avoiding alcohol and sedatives in the evening and correcting any structural nasal or pharyngeal abnormalities (eg tonsillectomy, particularly in children where enlarged tonsils may be an important factor). Continuous positive airway pressure (CPAP) is a highly effective form of therapy and is used when the relatively simple measures mentioned above are inappropriate or ineffective. CPAP consists of a positive pressure applied through the nose to maintain the patency of the upper airway. Clinical trials have shown that CPAP markedly improves symptoms, objective daytime sleepiness, psychometric performance and mood. A retrospective study showed that patients with sleep apnoea lived longer when treated in this way. Treatment often allows the patient to return to full employment and a normal life-style, and is highly cost effective.

Recommendations

In the UK most patients can presently be investigated and treated in between 12 and 15 departments which have developed because of the interest of individual physicians (mostly respiratory physicians). The prevalence data, however, suggest that only a minority of individuals with significant OSA are being recognised and treated. Many patients could be diagnosed and

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managed in district general hospitals by appropriately trained and skilled personnel, but such expertise is not widely available at present. Specialist respiratory sleep centres (SRSC) are and will continue to be required for the investigation and management of many patients with OSA, as well as for the investigation of somnolent patients with normal or equivocal 'limited' sleep studies and those with more complex sleep disorders. The initiation and maintenance of effective treatment with CPAP requires dedicated expertise and represents another area where SRSCs should offer advice, supervision and training. The Working Party estimated a need for one SRSC for roughly every three million population, ie 15–18 centres nationally. Such centres need to be appropriately equipped and staffed to carry out full polysomnographic studies.

There is a need to increase awareness and knowledge of sleep apnoea. Education through the media of the dangers and treatability of OSA needs to be incorporated into more structured health programmes. Better knowledge and awareness of sleep apnoea should also ensure that it is included in undergraduate and postgraduate training.

The Government's paper on *The health of the nation* is highly relevant to the identification, prevention and treatment of sleep apnoea, particularly where it refers to coronary heart disease and stroke, and to accidents. In sleep apnoea there are more deaths from myocardial infarction and strokes and more accidents resulting in death.

Adequate funding for investigational facilities and treatment is required both by local district health authorities and SRSCs. Purchasers of health care need to be aware that OSA is a common and serious problem with a high level of morbidity and mortality. Of particular importance is the provision of equipment for nasal continuous positive airway pressure therapy; although it is relatively inexpensive it has proved difficult to fund in many centres.

Further research and audit are required in the causation, management and treatment of sleep apnoea.

Patients and physicians should be aware of the position of the law in relation to driving licence holders who suffer from daytime sleepiness due to OSA. There should be greater emphasis on the present need for a licence holder to act responsibly and on his duty to inform the DVLA that he has a medical condition which makes him a potential danger while driving and which is likely to persist for more than three months. We suggest that OSA with excessive daytime sleepiness should be specified as a relevant disability under the terms of the Road Traffic Act 1991.

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