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A RARE PRESENTATION OF SLEEP DISORDERED BREATHING

Pulmonary Medicine

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ABSTRACT

Sleep breathing disorder (SBD) is characterised by cessation of breathing (i.e,apneas)or reductions in breathing(I.e.,hypopnea)that happensduring sleep in repetitive period. There are four types of SDB- Ob structive, central, mixed and complex. Obstructive sleep apnea syndrome(OSAS)is characterized by obstruction of upper airway that occur repeatedly in sleep and is the most commonest form. During obstructive events, there will be a measurable drop in blood oxygen saturation, it returns back to the baseline levels when the breathing resumes.The respiratory rhythm generator is located in the ponto-medullary region of brain is characterised by transient diminution or cessation in central sleep apnea(CSA).CSA exhibits as a cyclical pattern during sleep with periods of Hypopnea or apnea along with alternating hyperpnea. Here we discuss one such similar case.

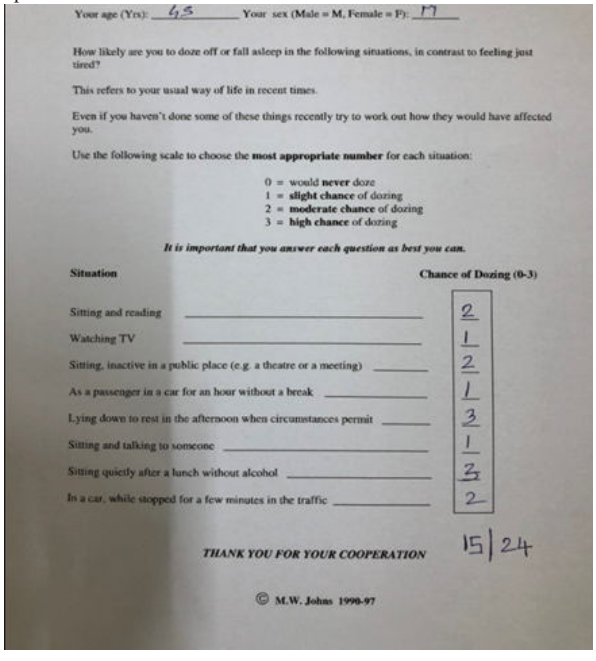
KEYWORDS

BACKGROUND

CSA accounts for 5%-10% of patients with SBD. CSA is more commonly seen in males(7.8%) rather than in females(0.3%) CSA-CSB(central sleep apnea- Cheyne- Stokes breathing) is most common type of CSA and is majorly due to reduced ejection fraction. Other non cardiac causes associated with CSA are multiple sclerosis, CNS tumours, cerebro vascular accident, congenital muscular dystrophy, end stage renal disease on HD and diabetes.

CASE

A 45 yr old male presented with the complaints of witnessed cessation of breathing during sleep. His wife gives history of witnessing similar episodes of


Your age (Yrs): 45 Your sex (Male = M, Female = F): M

How likely are you to doze off or fall asleep in the following situations, in contrast to feeling just tired?

This refers to your usual way of life in recent times.

Even if you haven't done some of these things recently try to work out how they would have affected you.

Use the following scale to choose the **most appropriate number** for each situation:

0 = would **never** doze
1 = **slight chance** of dozing
2 = **moderate chance** of dozing
3 = **high chance** of dozing

It is important that you answer each question as best you can.

Situation	Chance of Dozing (0-3)
Sitting and reading	2
Watching TV	1
Sitting, inactive in a public place (e.g. a theatre or a meeting)	2
As a passenger in a car for an hour without a break	1
Lying down to rest in the afternoon when circumstances permit	3
Sitting and talking to someone	1
Sitting quietly after a lunch without alcohol	3
In a car, while stopped for a few minutes in the traffic	2

THANK YOU FOR YOUR COOPERATION 15/24

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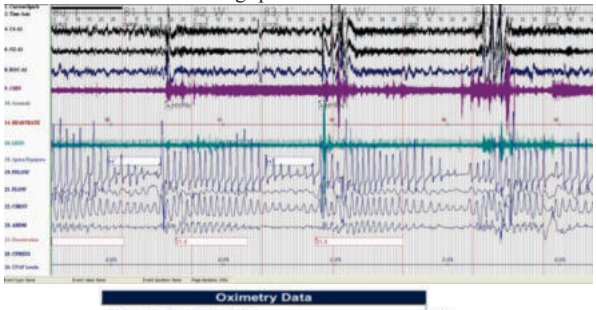
Fig:1.0: Epworth sleep scale- 15/24

cessation of respiration while sleeping for the past 15 days. He also gives history of tiredness and day time sleepiness. No history of snoring. No history of chest pain ,palpitations, swelling of legs ,reduced urine output. On examination, his BMI was 18kg/m2. All vitals were stable. No history of any known comorbidities. Systemic examination was normal. An ABG was done and was normal. Cardiac status evaluated and was normal. Chest X-ray was done and was normal. Patient was furtherFIG: 1.1 Polysomnography revealing apnoeic spells with desaturation following apnea and absent abdominal movement during apnea.



Oximetry Data	
Average O2 while awake	97 %
Average O2 while in REM	95 %
Oximetry Distribution	
<50 % (min)	0
<60 % (min)	0
<70 % (min)	0
<75 % (min)	0
<80 % (min)	0
<85 % (min)	0
<90 % (min)	0
<95 % (min)	1
<0 % (min)	
Fall (min)	0
Average (%)	9
Desat Index (#/hour)	
Desat Max (%)	
Desat Max Dur (sec)	27
Oximetry Summary	
Fall Duration (min)	0
Average (%)	9
# of Desaturations*	
Desat Index (#/hour)	
Desat Max Dur (sec.)	27

*Desaturations based on 3% or greater drop from baseline.
Minimum SpO2 value during sleep: 89%
Minimum SpO2 value duration during sleep: 3 seconds
Minimum SpO2 value associated with a respiratory event: 89%

Fig1.2: Chest X Ray Revealed No Obvious Parenchymal Abnormalities.

Evaluated with sleep questionnaires. STOPBANG score-3/8.EPWORTH SLEEP SCALE-15/24. Sleep study was performed. Polysomnography revealed apnoeic spells with desaturation following apnea. There were no abdominal or thoracic movements at apnoeic

times. Hence the patient was further evaluated for central sleep apnea . 2D ECHO was done and there was no signs of CCF. Patient does not give any history of other drug intake. MRI brain was done which revealed a hypoechoic lesion in medullary region likely to be medullary tumour of brain. Neurology opinion was obtained and patient was referred to higher centre for further evaluation.

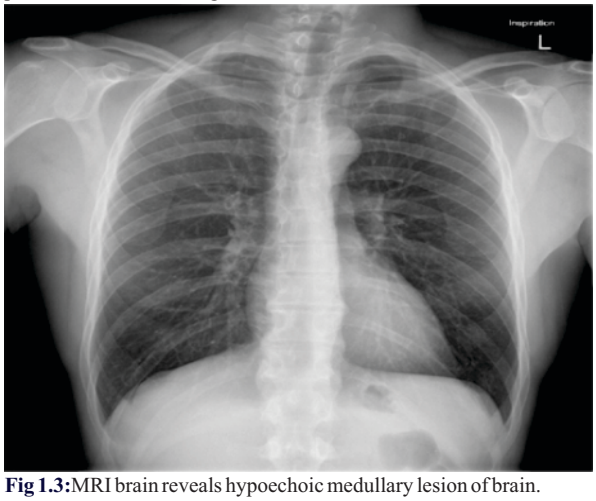


Fig 1.3:MRI brain reveals hypoechoic medullary lesion of brain.

DISCUSSION

Central sleep apnea(CSA) is characterized by reduction in drive to breathe while sleeping, which results in repetitive periods of inadequate ventilation and decreased gas exchange. In obstructive sleep apnea (OSA), respiratory efforts are present, whereas central apnea is defined by absence of respiratory effort during cessations in airflow. These interruptions can occur sporadically in normal breathing either throughout in cyclical patterns or throughout the night.The Symptoms of CSA include excessive tiredness during the day, decreased quality sleep, insomnia , diffculties with attention and concentration, waking up with shortness of breath, morning headaches, low sex drive and impotence, There are different types of CSA such as Central sleep apnea with Cheyne-Stokes breathing ,Central sleep apnea without Cheyne-Stokes breathing due to a medical disorder , Central sleep apnea due to a substance or medication or high altitude periodic breathing and Treatment-emergent central sleep apnea. Treatment options include Continuous Positive Air Pressure(CPAP), BiPAP, and Adaptive Servo-Ventilation(ASV).

CONCLUSION

As there is a temporary loss of output from the ponto medullary pacemaker that generates breathing rhythm centrally driven respiratory events occurs primarily and result in loss of the diaphragmatic activity.

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