

Sigh Syndrome: An Emerging Issue in the Healthy Population Amid the COVID-19 Pandemic

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Abstract

The COVID-19 since it was declared as pandemic worldwide on 11th March 2020, continuously impacting the world's economy, vocational life and psychosocial life across the globe. There is no region of the earth and population which is immune to this pandemic so far. The Sigh syndrome is a transient psychological phenomenon which is manifested by a weird kind of abnormal breathing sensations or constant sighing. In our practice, we noticed that the number of cases of typical Sigh syndrome or sighing has increased during this pandemic. This syndrome considered as a benign problem, and it does not warrant a specific diagnostic test or treatment, apart from proper counselling.

Keywords: *Sigh Syndrome; COVID-19; Anxiety; Shortness of Breath*

Introduction

Since the first confirmed case of COVID-19 in December 2019 in Wuhan city, China, the disease has rapidly spread all over the world and on 11th March 2020, WHO declared it as a pandemic. The COVID-19 does not have a direct correlation with Sigh syndrome. Still, in the context of this stressful environment, it is used to commonly observe symptoms of sigh syndrome, in the general population. The sigh syndrome defined as dysfunctional breathing that is characterized by deep sighs (more than three times average tidal volume) [1,2]. Sighing frequency may be variable, but in one study, sighs occurred 4 to 15 times/15 minutes, compared with 0 to 3 times/15 minutes in healthy subjects [2]. The patient best describe this disorder as they are not getting enough air or oxygen or "I unable to fill my lungs with air." We observed that the persons who are more concern about COVID-19 crisis, few of them often have similar kind of symptoms.

Discussion

Sigh syndrome is a psychological manifestation of respiratory system without the organic disease, characterized by 'persistent sighing' or repeated episodes of voluntarily deep breathing to satisfy the sense of air hunger. It is an uncomfortable and conscious awareness of breathing. In these cases, the cortex of a conscious brain overrides the function of the respiratory centres in pons and medulla.

The six to eight times per hour involuntarily sighing is normal for a healthy individual to keep all the alveoli open, which is usually not occurred in quite breathing.

Patients with sighing dyspnea usually describe their symptoms as "shortness of breath", "I can't get enough air or oxygen" or "I can't fill my lungs with air" which is associated with some anxiety or psychological component. The sighs are typically not perceived by the pa-

tients who may instead report difficulty in taking a deep breath [1]. However, these patients do not feel any problem in exhalation, which is a passive manoeuvre due to the elastic recoil of the lungs and chest wall.

Sigh syndrome is a transient and benign phenomenon associated with anxiety symptoms. Since stress and anxiety, itself is a known trigger for asthma, that make confusion between sighing and asthma symptoms [3,4]. Another way round, dyspnea for any cause can also increase the anxiety or stress.

The diagnostic criteria of sigh syndrome, based on the data collected by family physicians in Israel, are summarized in table 1 [5].

1. Recurrent, forced deep inspiration followed by a prolonged and often audible sigh
2. Feeling of incomplete breath despite sighing.
3. Otherwise shallow respiration
4. Spontaneous episodes without any obvious trigger
5. Episodes occur more when alone and at rest
6. Episodes last a few days to several weeks
7. No interference with speech
8. Absence of sighing during sleep
9. No worsening due to physical activity
10. Self-limited; response well to reassurance.

Table 1: Criteria for diagnosing sigh syndrome.

The diagnosis of sigh syndrome is purely clinical [6] and no specific investigation is required. Still, routine chest x-ray, ECG and spirometry can be done to rule out existing cardiopulmonary disease.

The differential diagnoses of Sigh syndrome include psychogenic hyperventilation, panic attacks, asthma, pulmonary embolism and cardiac disease. Many psychiatric disorders associated with respiratory manifestations, such as globus hystericus, neurocirculatory asthenia and Tietze syndrome [7-10].

Most of the cases of sigh syndrome, we have come to our facility with a fear of having COVID-19, as their symptoms are related to the respiratory system. Other factors that are associated with the sigh syndrome in this COVID-19 pandemic are financial loss, job insecurity, being bound at home, the stress of work from home and fear of losing a dear one. We observed that the pediatric population with these symptoms is negligible in this season, suggesting less impact of these factors in this age group. However, before COVID-19 pandemic, we used to encounter with few pediatric cases also.

We conducted a small observational study of the clinical and demographic profile of 19 cases who presented in our clinic during the COVID-19 season, with typical symptoms of sigh syndrome, mentioned in table 1. The mean age of our cohort was 37.05 years (21 - 54 years), 36.84% (7) were female, and 63.15% (12) were male, 47.36% (9) were smoker, 36.84% have some underlying comorbid conditions (three obstructive sleep apnea, two anaemia, one hypothyroidism and one case of hypertension), 42.10% (8) patients claimed that currently, they have anxiety or stress. The mean duration of the respiratory symptoms was 30.73 days (3 days - 90 days). On investigations, the pulmonary function test showed a normal study in 84.21% (16), two patients showed weak effort in the spirometry test, and one case showed a mild restrictive pattern. The chest x-ray findings were essentially normal in all cases. None of our patients has any previous traumatic event in their life or history of major psychiatric disorder.

We observed that all of these patients typically do not have symptoms while sleeping and while busy in their work. Majority of these cases are working, either from home or at the workplace. They do not have any systemic symptoms and sign or significantly associated comorbidities. They do not require any specific treatment, and we give only counselling and reassurance. The meditation, relaxation and yoga might help, but not well studied mainly in these cases.

None of the cases returned with similar symptoms. We recommend psychiatric referral of these patients if their symptoms are persisting despite proper counselling or if they returned for follow up with similar complaints.

Conclusion

The COVID-19 pandemic has not only paralyzed the world's economy but also adversely impacts the psychosocial well-being of the public. Sigh syndrome in the context of any stressful environment is not an uncommon presentation and the patient can seek help in any speciality. The correct identification of sigh syndrome is essential to avoid unnecessary investigations and medical treatment. The condition is mostly transient and benign and resolved it-self with proper counselling and reassurance. Our observation says that rarely these patients required psychiatric assistance.

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