

# Telecare of an Anxious Breathless Athlete in COVID-19 Pandemic: A Case Report Study

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## Abstract

The COVID-19 pandemic has adversely impacted human history. It has familiarized us with new norms of living standards such as social distancing, quarantine, lockdown, and work from home. The COVID-19 Pandemic has a massive impact on healthcare which changes the trend toward telephonic Consultation for COVID-related as well as non-COVID related problems. However, there are still certain situations where Telecare should not be considered reliable. Therefore, we suggest that sufficient patient-physician communication is important before diagnosing any condition, particularly labeling any symptom as Anxiety.

**Key words:** Anxiety, COVID-19, Telecare

## BACKGROUND

The COVID-19 pandemic has adversely impacted human history. It has familiarized us with new norms of living standards such as social distancing, quarantine, lockdown, and work from home. This pandemic has demonstrated the critical importance of telecommunication in different aspects of life from businesses, the economy, and societies to health medicine to keep the communities connected. There is no doubt that Telehealth has proved itself in providing health care services during this global emergency while also providing safety to patients and health care professionals. Although there are numerous benefits of Telehealth particularly in non-emergency conditions and few situations where direct physical review is not required such as psychological services, there are still certain definite limitations that exist. There are concerns about quality and safety through teleconsultation as compared to physical review.

Here, we are discussing a case of a young athlete who has been indirectly affected by the COVID pandemic due

to a lack of face-to-face communication and labeled as Anxiety. Anxiety, among all human emotions, is one of the characteristics and most powerful emotions. It is a feeling of unease characterized by intense feelings of inner distress and anguish resulting in behavioral and physiological impact.<sup>[1]</sup> It can range from mild to severe and can include feelings of worry and fear. The most severe form of anxiety is panic. This can create a cycle of living “in fear of fear.” The relationship between anxiety and cardiovascular health is complex as all the panic attack features can be seen in an acute cardiac event. The prevalence of anxiety disorder among patients with heart disorders are higher ranges from 15% to 40% than that of the general population.<sup>[2,3]</sup> In Athletes, studies show dilated cardiomyopathy is the main cause of heart failure (HF), while acute myocarditis is the most frequent cause of acquired dilated cardiomyopathy in young athletes.<sup>[4]</sup> The latter may run an asymptomatic course and present with normal resting electrocardiography in up to 32% of those affected.<sup>[5]</sup>

## CASE REPORT

A 42-years old young athlete presented in the Emergency department in the United Kingdom with 3 months history of recurrent episodes of shortness of breath, described as exertional dyspnoea, palpitations, sweating, trembling, and fatigability. He presented to his general practitioner (GP) with the above symptoms. His initial clinical review was completely unremarkable; therefore, and he was managed

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**Month of Submission :** 09-2021  
**Month of Peer Review :** 10-2021  
**Month of Acceptance :** 11-2021  
**Month of Publishing :** 11-2021

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on the line of panic attacks. The patient's symptoms got worse over 2 months where he was unable to perform any exertional work. Except for the first GP surgery visit, his subsequent consultations were totally telephonic. He was a marathon runner, used to run kilometres routinely, now became debilitated, unable to perform the activity of daily living. He started using 3 pillows, and was unable to walk without being short of breath, he almost started crawling. Over the next 3 weeks, he noticed leg swellings and blood-stained cough, re-contacted GP Surgery, was advised to visit the hospital, and eventually landed in the emergency room. His past medical, drug, and family history was not significant. He was a non-smoker, non-alcoholic fit healthy person. There was no history of preceding viral illness or travel. His physical examination revealed sitting posture, cold clammy extremities, speaking in broken sentences respiratory rate 32, blood pressure 114/64, pulse rate 97, oxygen saturation 97% on 35% VM, Temp 36.6, thready radial pulse with raised jugular venous pressure up to ear lobule and bilateral pitting oedema. Chest examination revealed fine basal crackles, soft heart sounds with gallop rhythm, ascites, and palpable liver.

His investigations revealed Troponins 128.5, brain natriuretic peptide 22024, C-reactive protein 173.2, D Dimers 2578, deranged liver functioning test, glomerular filtration rate >90, and electrocardiogram showed left atrium enlargement, prolonged QTc and T wave inversions in lateral leads. Chest X-ray showed increased cardiothoracic ratio + congested lung fields.

A clinical diagnosis of acute decompensated HF was made. An echocardiogram showed ejection fraction 14%, severely dilated left ventricle (LV) with moderate biatrial and right ventricle dilatation, and LV Thrombus. Computed tomography (CT) Chest showed acute pulmonary emboli with pulmonary infarct and right kidney infarct. Blood tests for the autoimmune screen, thyroid profile, and blood cultures along with COVID polymerase chain reaction were negative.

He was treated for acute decompensated HF with furosemide, intravenous dobutamine, dalteparin and transferred to the cardiology unit where he was managed as a case of dilated cardiomyopathy of unknown cause. He responded well to the treatment and after stabilization, he was transferred to a specialized centre QE, Birmingham for Heart Transplant.

## DISCUSSION

This is a case report of an anxious young athlete, in whom the diagnosis of breathlessness posed difficulty due to various factors, which included atypical presentation considered to be anxiety, slow progression, and subsequent telephonic conversations by the GP, rather than face-to-face consultation, due to COVID-19 pandemic. This led to difficulty in

understanding the nature of his symptoms without a physical examination and may have contributed to a delay in the diagnosis. Clinical manifestation of chronic HF in an athlete as well as in non-athletes can be nonspecific, underestimated, and/or misdiagnosed, with possibly dire consequences. Thus, athletes suffering from HF may be asymptomatic or present with atypical symptoms. Dyspnea is a common complaint in seemingly otherwise healthy athletes. Asthma and exercise-induced bronchoconstriction are prevalent conditions in elite athletes. However, there are numerous factors, ranging from poor aerobic fitness to serious, potentially fatal respiratory and non-respiratory pathologies that can cause dyspnoea in athletes. For effective treatment of dyspnea, clinicians need to obtain an appropriate case history, ask relevant exercise-specific questions, and perform a proper examination to fully characterize the nature of the complaint, so that a targeted diagnostic plan can be developed.

In the case described above, although differentiation of evolving HF from panic disorder was difficult due to symptoms similarities. However, developments of such symptoms in young athletes should not be ignored or labeled as anxiety unless all other physical causes are excluded. According to the DSM-5, the diagnosis of panic disorder is applied in cases of repeated and unexpected panic attacks, where the condition is defined as not being caused by the physiological effect of a substance or other medical condition (e.g., hyperthyroidism or a cardiopulmonary disorder).<sup>[6]</sup> Panic attacks are psychiatric symptoms in which sudden severe fear or discomfort increases and peaks within a few minutes, and four of 13 symptoms (palpitations, sweating, trembling, sensations of shortness of breath, feelings of choking, chest pain, nausea, dizziness, chills, paresthesia, derealization, fear of losing control, or fear of dying) occur during that time.<sup>[6]</sup>

In this case, the patient exhibited palpitations, dyspnea, chest pain, lethargy, and fear of death. This gentleman contacted his GP in the early phase of illness, the examination was normal, and no other structural abnormalities were noted at the initial visit. Therefore, he was assumed to have these symptoms due to panic disorder. During the clinical course, his symptoms got worse. He repeatedly contacted his GP who arranged telephonic consultations due to the COVID-19 pandemic; no in-person visit was arranged. Hence, GP initiated psychotherapy and started him on psychotropic medication, but the patient observed no therapeutic effect and finally ended up in emergency in acute decompensated HF.

In the general population, the prevalence rate of panic disorder is reportedly 3.7%.<sup>[7]</sup> In contrast, some studies reported that up to 30% of patients with HF also exhibit clinically relevant anxiety symptoms.<sup>[2]</sup> In one of the first systemic studies conducted at a Sports Cardiology Clinic

in Denmark to investigate the prevalence of cardiac symptoms and diagnoses among 201 athletes, Cardiac disease was diagnosed in 44% of the patients, and atrial fibrillation was the most prevalent diagnosis (7.5%). Some patients receiving a delayed diagnosis of arrhythmia are initially misdiagnosed as having panic disorder.<sup>[8]</sup>

In other studies, an interesting relationship has been found between panic attacks and mitral valve prolapse. This benign condition is found to be more frequent in patients with panic disorder as compared to the general population.<sup>[11]</sup> A series of 73 patients were compared with a control group of acute coronary syndrome (ACS) patients. The authors found that Takotsubo Cardiomyopathy (TCM) patients had higher levels of chronic anxiety, in comparison with ACS patients. After a multivariable adjustment, it was found that chronic anxiety in TCM is associated with an emotional trigger.<sup>[9]</sup>

In one case report of a 57-year-old woman who appeared to have panic disorder, later diagnosed as transient complete atrioventricular block, associated with cardiac sarcoidosis. Her panic attacks were ameliorated after implantation of a permanent pacemaker and initiation of steroid treatment for cardiac sarcoidosis.<sup>[3]</sup>

## CONCLUSION

The current case report highlights the importance of exclusion of all other physical causes before labelling any patient with anxiety. Anxiety should be last in our differential diagnosis unless proved otherwise. It is suggested that proper cardiac evaluation by examination, Holter monitoring, or echocardiography should be considered in athletes who develop new-onset breathlessness. This case report also emphasizes the significance of thorough clinical evaluation which is crucial to exclude illnesses with similar presentations like panic disorder.

The COVID-19 Pandemic has a massive impact on healthcare which changes the trend toward telephonic consultation for COVID-related as well as non-COVID related problems. It is believed under current circumstances that Telemedicine has shared a major burden in healthcare; however, it has deprived utmost important face-to-face clinical evaluation. This led to delay in diagnosis, early treatment, resulting in dire consequences, like our case. A qualitative interview study in Flemish GPs revealed that GPs found telephonic consultation difficult due to lack of non-verbal communication, less information,

and subjective patient findings, think they will miss other diagnoses more frequently.<sup>[10]</sup>

In this regard, Greenhalgh and Greenhalgh *et al.*<sup>[11,12]</sup> gave guidance regarding the use of video consultations in primary care which has some important practical implications appropriate for both “COVID-related” or “non-COVID-related” consultations and provides tips on which patients may not be suitable for video consultations.

In the end, we suggest that sufficient patient-physician communication is important before labelling any symptom as a panic attack. The role of Telehealth should be prioritized on an individual basis rather than applying to every patient as there is a case-to-case variation in clinical presentation.

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**How to cite this article:** Joham F, Javeria S, Salman BM, Yawar Y, Raana H. Telecare of an Anxious Breathless Athlete in COVID-19 Pandemic: A Case Report Study. *Int J Sci Stud* 2021;9(8):4-6.

**Source of Support:** Nil, **Conflicts of Interest:** None declared.