Common symptoms of COVID-19 patients admitted in the emergency ward: A review

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Introduction

Global healthcare systems are facing previously unheard-of difficulties as a result of the COVID-19 pandemic. Patients seeking medical attention have increased significantly as a result of the novel coronavirus, SARS-CoV-2, spreading quickly. This has been especially true for emergency rooms. Comprehending the typical signs and symptoms of COVID-19 patients brought to the emergency department is crucial for efficient diagnosis, treatment, and disease containment (1, 2). An in-depth examination of the common symptoms seen in COVID-19 patients upon admission to the emergency ward is the goal of this review article.

Role of emergency ward in pandemics

In managing and reacting to public health emergencies during pandemics, emergency rooms play a critical role. Identifying, triaging, and treating patients afflicted by infectious diseases are critical tasks performed by emergency wards, which act as the front lines of healthcare delivery during pandemics. Triage and quick assessment are two important facets of emergency wards' involvement in pandemics. Patients who exhibit pandemic symptoms must be sorted according to priority by emergency ward staff. Emergency wards adhere to stringent isolation protocols to stop the spread of infectious diseases within healthcare facilities. These measures, along with quick assessment and classification of patients based on the severity of their conditions, enable prompt intervention and resource allocation. In order to detect and confirm cases of the pandemic illness, emergency wards carry out quick diagnostic testing. Other measures include designated isolation areas, personal protective equipment (PPE) for healthcare personnel, and infection control techniques to reduce transmission. This facilitates early identification, contact tracing, and the application of relevant public health measures), treatment, and stabilization (patients exhibiting severe symptoms of the pandemic disease receive prompt medical attention and stabilization in emergency rooms). oxygen therapy, respiratory support, and other vital interventions to address potentially fatal complications are examples of this. Coordination with public health authorities is another important aspect of this; emergency rooms work closely with public health agencies to report cases, exchange epidemiological data, and carry out public health directives. This collaboration makes it easier for both local and national authorities to respond to the pandemic in a coordinated manner), community outreach and education (To increase public knowledge of the pandemic, preventive measures, and when to seek medical attention, emergency wards conduct community outreach and education. Surge capacity and resource management (emergency wards create plans for surge capacity to handle an unexpected influx of patients during pandemics; this fosters public cooperation in pandemic control efforts, lowers stigma, and aids in early detection). mental support (emergency wards offer mental support to patients, families, and healthcare professionals affected by the pandemic); this includes optimizing staffing levels, obtaining additional medical supplies, and modifying infrastructure to meet increased demand. This covers data collection and research (emergency wards support research efforts by sharing insights on the management of the pandemic illness, taking part in clinical trials, and gathering clinical data). It also includes counseling services, mental health resources, and techniques to address emotional distress. this increases scientific knowledge and encourages decision-making based on evidence. In summary, emergency rooms are at the forefront of the fight against pandemics because of their varied roles in research, community involvement, infection control, and patient care. They also work closely with public health groups. Reduced public health effects from pandemics are largely attributable to their capacity for adaptation, resource mobilization, and innovation (3–7).

Clinical findings

COVID-19 patients frequently arrive at the emergency room with a wide range of symptoms, varying in intensity. Often accompanied by chills and body aches, fever is one of the most commonly reported symptoms. One other hallmark symptom that is seen in a considerable number of admitted patients is a persistent dry cough. Shortness of breath, or dyspnea, is a common

complaint among COVID-19 patients in need of emergency care and is a crucial indicator of respiratory distress. Patients with COVID-19 may also have muscular aches, headaches, sore throats, and exhaustion in addition to respiratory symptoms. Some cases have also been reported to have experienced gastrointestinal symptoms, including nausea, vomiting, and diarrhea. Two distinct sensory symptoms that have been linked to COVID-19 infection are anosmia (loss of smell) and ageusia (loss of taste). Patients admitted to emergency rooms often experience these symptoms. Mild to severe symptoms can be experienced with COVID-19, and they can appear in a variety of ways. Breathlessness, coughing, and fever are typical symptoms. Yet, there are a number of additional symptoms linked to COVID-19, such as extreme fatigue and weakness, which patients often report, muscle aches and body pains that can exacerbate general discomfort, and loss of taste or smell, such as anosmia or ageusia, which has been identified as a possible symptom of COVID-19 and frequently manifests abruptly, Chills: Shivering and chills are common symptoms, often accompanied by fever. Headache: Some patients report persistent headaches, sometimes severe, as a symptom of COVID-19. Sore throat: Some patients report sore throats as a symptom of COVID-19, which can be accompanied by difficulty swallowing. Nasal congestion (congestion or runny nose may occur, although it is less common than other symptoms), conjunctivitis (inflammation of the outermost layer of the eye can be a symptom of COVID-19, presenting as redness and discharge from the eyes), diarrhea (digestive issues such as diarrhea have been reported in COVID-19 patients, sometimes as an initial symptom), and skin rash (skin rashes or discoloration have been observed in some COVID-19 patients, often in conjunction with other symptoms). Also, there are three main symptoms that patients may experience: persistent pressure in the chest (which should be evaluated right away as it may be a sign of severe respiratory distress), confusion or cognitive impairment, and chest pain (which can be present, especially in cases of severe infection). It is crucial to keep in mind that people infected with COVID-19 may exhibit a combination of these symptoms and that certain symptoms may be similar to those of other respiratory disorders. Consult a doctor and adhere to regional health recommendations for testing and treatment if you or someone you know is exhibiting symptoms that could be associated with COVID-19. Some COVID-19 patients who are admitted to the emergency ward may have mild to severe symptoms, and some may develop a critical illness that necessitates intensive care. Acute respiratory distress syndrome (ARDS) is a common symptom of severe cases, which can result in hypoxemia and respiratory failure. Among hospitalized COVID-19 patients, pneumonia is a common complication that is characterized by bilateral infiltrates on chest imaging. Furthermore, there is a higher chance of severe symptoms and unfavorable outcomes for COVID-19 patients who already have pre-existing comorbidities like diabetes, hypertension, cardiovascular disease, and obesity. Some hospitalized COVID-19 patients have been reported to have major complications from thromboembolic events, such as deep vein thrombosis and pulmonary embolism (8–20).

Paraclinical findings
For COVID-19 patients admitted to the emergency ward, laboratory tests are an essential part of their evaluation and treatment. Interleukin-6 (IL-6), a pro-inflammatory cytokine, and lymphopenia are among the frequently observed conditions. Elevated CRP is also common. A hypercoagulable state and a higher risk of thrombotic events are indicated by elevated D-dimer levels. Molecular assays like reverse transcription-polymerase chain reaction (RT-PCR) are used in SARS-CoV-2 diagnostic testing to identify viral RNA in respiratory specimens. Assessing the degree of lung involvement and identifying characteristic radiographic findings associated with COVID-19 pneumonia can be done with the use of chest imaging modalities, such as computed tomography (CT) scans and chest X-rays. Paraclinical and laboratory data related to COVID-19 are, in fact, extremely important for the diagnosis, treatment, and follow-up of infected patients. These results offer important new understandings of the disease's pathophysiology and help medical practitioners treat patients appropriately. Several significant paraclinical and laboratory results related to COVID-19 have been identified: Chest imaging (radiological imaging, including computed tomography (CT) scans and chest x-rays) frequently shows distinctive findings in patients with COVID-19. These results could include bilateral lung involvement, consolidation, and ground-glass opacities, all of which point to pneumonia and respiratory involvement), Blood tests (laboratory investigations): C-reactive protein (CRP), erythrocyte sedimentation rate (ESR), d-dimer levels, and complete blood count (CBCC) are frequently carried out in COVID-19 patients. Viral testing (real-time reverse transcription-polymerase chain reaction (RT-PCR) testing of respiratory specimens (e.g., elevated CRP and d-dimer levels may indicate systemic inflammation and coagulation abnormalities associated with severe COVID-19 syndrome). g. The principal technique for diagnosing acute COVID-19 infection is nasopharyngeal swabs. Positive RT-PCR results verify that the patient's respiratory secretions contain sars-cov-2 viral RNA), and antibodies against sars-cov-2 are found in the blood through serological testing (serological tests, including antibody tests). coagulation profile (COVID-19 patients may show coagulation abnormalities, increasing the risk of thrombosis); these tests help determine prior exposure to the virus and may aid in assessing immune response and seroprevalence within populations. Laboratory testing of coagulation parameters (prothrombin time (PT), activated partial thromboplastin time (APTT), and fibrinogen levels aid in the diagnosis of coagulopathy and direct anticoagulant therapy); elevated levels of inflammatory markers (higher levels of ferritin and interleukin-6 (il-6) are frequently seen in severe COVID-19 cases). Renal and liver function tests (which track hepatic enzymes, such as ALT and AST), cytokine release syndrome, and systemic inflammation, all of which contribute to the severity of the disease like aspartate aminotransferase, alanine aminotransferase), as well as kidney function (e.g. Blood gas analysis (which provides information about oxygenation status, acid-base balance, and respiratory function and is crucial for managing respiratory failure in critically ill COVID-19 patients) and cardiac biomarkers (evaluation of cardiac biomarkers, including troponin and brain natriuretic peptide (BNP), helps identify myocardial injury and cardiac dysfunction in severe COVID-19 cases) are important in assessing multi-organ involvement and potential complications in COVID-19 patients. This laboratory and paraclinical results support the thorough evaluation of COVID-19 patients, directing treatment interventions, risk

assessment, and clinical judgment. It is imperative to acknowledge that, in order to guarantee precise diagnosis and superior patient care, the interpretation of these results must be executed in tandem with clinical assessment and additional diagnostic techniques (16–19, 21–27).

Conclusion

In summary, medical personnel involved in the pandemic's front-line management must comprehend the typical symptoms of COVID-19 patients admitted to the emergency ward. Initiating appropriate medical interventions and putting infection control measures in place requires prompt recognition of these symptoms. Our knowledge of the clinical presentation, severity, and management of COVID-19 in emergency care settings will continue to grow as the international healthcare community works to overcome the obstacles presented by the pandemic. This understanding will be bolstered by ongoing research and clinical experience. The wide range of symptoms that COVID-19 patients displayed when they were admitted to the emergency room is explained in detail in this thorough review, which also sheds light on the disease's complexity and effects on people and healthcare systems around the globe.

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