



## **A case report on Severe Acute Respiratory Infection**

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### **Authors' contributions**

*This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.*

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**Case Study**

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## **ABSTRACT**

**Introduction:** Severe Acute Respiratory Syndrome is a zootoxic viral respiratory illness caused by the severe acute respiratory syndrome corona virus (SARS-CoV or SARS-The syndrome was the cause of the Severe Acute Respiratory Syndrome outbreak in 2002–2004. The virus was traced back to cave-dwelling horseshoe bats via Asian palm civets in late 2017 by Chinese scientists in Xizang Yi Ethnic Township, Yunnan. SARS was a rare illness; there were 8,422 cases at the end of the pandemic in June 2003, with an 11 percent case fatality rate (CFR) (CoV-1), the initial strain of the SARS corona virus species (SARSr-CoV).

**Clinical Finding:** Swelling over Right. Half of face, Breathlessness.

**Diagnostic Evaluation:** Blood test: Hb – 9.2gm%, Total RBC count- 3.22 millions/cu.mm, HCT- 26.6%, Total WBC count – 6600/cu.mm, Monocytes-02%, granulocytes-85%, lymphocytes-10000 /mcl. HRCT Scan OF Thorax: Multiple ill defined patchy ground glass opacities with consolidation and septal thickening in bilateral lungs filled s/o infective etiology possibility of atypical viral pneumonia. View of covid positive PCR test; imagine grading corad-6 with CT severity score – 03\25 (Mild).

**Therapeutic Intervention:** Inj.Amphotericin-B 500mg IV, Inj.Piptaz 4.4gm IV x TDS, Inj.levoflox 500 mg x OD, Inj.Clindamycin 300mg x BD, Inj.pantaprazol 40 mg x OD, Inj.Emset 4mg x TDS, Tab. limcee 500 mg x BD.

**Outcome:** After Treatment, the patient shows improvement. His swelling over face decrease, and breathlessness decrease.

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**Conclusion:** My patient was admitted in SARI-HDU, AVBRH with complaint of swelling over face Right side, and breathlessness. After getting appropriate treatment his condition was improved.

*Keywords: Corona virus; respiratory syndrome; breathlessness.*

## 1. INTRODUCTION

The severe acute respiratory syndrome corona virus (SARS-CoV or SARS-CoV-1) is a zoonotic viral respiratory illness caused by the severe acute respiratory syndrome corona virus (SARS-CoV or SARS-CoV-1), the first known strain of the SARS corona virus species (SARSr-CoV). The first corona virus strain linked to SARS was found (SARSr-CoV). The syndrome was the cause of the SARS outbreak in 2002–2004. The virus was traced back to cave-dwelling horseshoe bats via Asian palm civets in late 2017 by Chinese scientists in Xizang Yi Ethnic Township, Yunnan [1]. Severe Acute Respiratory Syndrome was a very rare disease; there were 8,422 cases at the end of the pandemic in June 2003, with an 11 percent case fatality rate (CFR) [2]. Since 2004, there have been no confirmed cases of SARS-CoV-1 anywhere on the planet [3]. In December 2019, SARS-CoV 2 (severe acute respiratory syndrome corona virus 2) was found as a new SARS-CoV strain.

SARS-CoV-1 replicates in the same way as other corona viruses [4-10]. The virus's main human receptors are angiotensin-converting enzyme 2 (ACE2) and hemagglutinin (HE), both identified in 2003.

In humans, SARS-CoV-1 appears to have a complex history of recombination with ancestral corona viruses identified in a number of animal species. Recombination requires the presence of at least two SARS-CoV-1 genomes in the same host cell. During genome replication, recombination can occur when the RNA polymerase switches from one template to another.

(SARS-CoV-2) [11] The major route of transmission for SARS-CoV is mucosal membrane contact with respiratory droplets or fomites. Despite the fact that diarrhea is a common symptom of Severe Acute Respiratory Syndrome, the fecal–oral route does not appear to be a primary mode of transmission [12]. The reproduction,  $R_0$ , of Severe Acute Respiratory Syndrome-basic CoV ranges from 2 to 4 depending on the analysis. Control measures

were applied in April 2003, reducing the  $R$  to 0.4 [12].

**Patient Identification:** A male of age 30 year old admitted to SARI-HDU, AVBRH on 19<sup>th</sup> May 2021 with complaint of swelling over right side of face and Breathlessness. He is 55 kg and Height is 172 cm.

**Present Medical History:** A male of age 30 year old was brought to AVBRH with a complaint of swelling over Right side of face and Breathlessness admitted to SARI-HDU .After investigation he is diagnose as Severe Acute Respiratory infection.

**Past Medical History:** My patient was diagnosed as covid-19 before one month ago he takes covid-19 treatment from Mahatma Gandhi Institute Of medical Science; Sewagram except this he not has disease like tuberculosis, Hypertension.

**Family History:** There are four members in the family. Type of marriage of the patient is non-consanguineous marriage. All other members of the family were not having complaint in their health except for my patient who was being admitted in the hospital.

**Past Intervention and Outcomes:** patient takes treatment of covid-19 from MGIMS hospital .As problem of swelling and breathlessness increase he shifted to AVBRH for her treatment.

**Clinical Finding:** Swelling over Right half of face, Breathlessness.

**Etiology:** SARS symptoms include fever, muscular aches, fatigue, cough, sore throat, and other vague symptoms. The sole symptom that everyone has is a temperature above 38 degrees Celsius (100 degrees Fahrenheit). As a result of SARS, people may experience show Rightness of breath and pneumonia, which can be either direct viral pneumonia or secondary bacterial pneumonia.

1. Pharyngitis (inflammation of the throat)  
Acute pharyngitis (inflammation of the).

2. The virus that causes the flu is called the par influenza virus.
3. Metapneumovirus in humans.
4. Adenovirus is a type of virus.
5. Rhinovirus is a virus that causes rhinitis.

**Physical Examination:** There is not much abnormalities found in Head- to-toe examination only swelling was present on Right side of patient face. The patient is thin and having dull look. Though it is found that patient have a severe acute Respiratory infection from HRCT thorax.

**Diagnostic Assessment:** Blood test: Hb – 9.2gm%, Total RBC count- 3.22millions/cu.mm, HCT- 26.6%, Total WBC count – 6600/cu.mm, Monocytes-02%, granulocytes-85%, lymphocytes-10000 /mcl. HRCT scan of thorax.

**Therapeutic Intervention:** Inj. Amphotericin-B 500mg IV, Inj.Piptaz 4.4gm IV x TDS, Inj.levoflox 500 mg x OD, Inj.Clindamycin 300mg x BD, Inj.pantaprazol 40 mg x OD, Inj.Emset 4mg x TDS, Tab.limcee 500mg x Bd.

## 2. DISCUSSION

On the 19<sup>th</sup> May 2021, a30 year old male from Malegaon was brought to AVBRH SARI-HDU (medicine unit) with following symptoms: swelling over face at RIGHT. Side and breathlessness with the use of HRCT scan of thorax, It is determined that the patient has a Severe acute Respiratory Infection. As soon was taken to the hospital an inquiry was conducted and proper treatment began. Following therapy it is a critical to detect the condition at an early stage so that the patient does not develop more complications. It important to take preventive measure my patient show great improvement after getting the treatment and the treatment was still going on till my last day of care.

The etiological and epidemiological characteristics of severe acute respiratory infection were studied in this study. Severe acute respiratory infection (SARI) causes a massive amount of sickness all over the world. Active monitoring among adult hospitalized Severe Acute Respiratory Failure patients is understudied in China. The objective of this pilot study in Jinshan, Shandong, was to identify common etiologies and characterize the demographic, epidemiological, and clinical features of hospitalized SARI patients aged 16 and up. A single sentinel hospital in Shanghai's Jinshan area was under active monitoring from

April 2017 to March 2018. Within 24 hours of admission; nasopharyngeal swabs were collected and tested for a variety of respiratory viruses (including 18 common viruses). There were 397 SARI patients in all, with a median age of 68 years and 194 (48.9%) of them being men. At least one chronic medical problem was present in 278 (70.0%) of the patients. The most frequent symptoms were coughing (99.2%), followed by sputum production (88.4 percent). A ten-day stay in the hospital was the average. 250 infected patients (63.0%) tested positive for at least one pathogen, with 198 (49.9%) testing positive for just one pathogen and 52 (13.1%) testing positive for several infections. M. pneumoniae was found in the majority of cases (23.9 percent, 95/397), followed by adenovirus (AdV) (11.6 percent, 46/397), influenza virus A/H3N2 (Flu A/H3N2) (11.1 percent, 44/397), human rhinovirus (HRhV) (8.1 percent, 32/397), influenza virus B/Yamagata (Flu B/Yamagata) (6.3 percent, 25/397), Human bocavirus (HBoV) (0.3 percent, 1/397), pandemic influenza virus B/Victoria (Flu B/Victoria) (0.5 percent, 2/397), and respiratory syncytial virus (RSV) type B (0.5 percent, 2/397) were all discovered. M. pneumoniae, AdV, and Flu A/H3N2 were the most frequent infections detected in hospitalized SARI patients aged 16 and above in Shanghai's Jinshan areathe corona virus linked to Severe Acute Respiratory Failure produces a viral respiratory illness known as severe acute respiratory syndrome (SARS). It was identified in late February 2003, during a Chinese outbreak that spread to four other countries. With the help of the Global Outbreak Alert and Response Network, WHO coordinates the international investigation (GOARN) it collaborated closely with health officials in the afflicted nations to offer epidemiological, clinical, and logistical support right in order to contain the epidemic.

Like the common cold and influenza virus, Severe Acute Respiratory Infection is an airborne virus transmitted by small droplets of saliva. It was the first serious and easily transmissible new sickness to emerge in the twenty-first century, and it had the potential to spread over international air travel routes.

Touching surfaces that have been infected with the virus can also spread Severe Acute Respiratory Infection. The majority of patients of Severe Acute Respiratory Syndrome were previously healthy individuals in their late twenties to fifties. A few teenagers under the age of fifteen have been suspected of having Severe

Acute Respiratory Syndrome. The case fatality rate for probable and suspected SARS infections according to the current WHO case definition is around 3%. Our findings highlight the need of long-term multipathogen monitoring among Severe Acute Respiratory Infection patients at sentinel hospitals, which can provide significant information concerning etiologies, epidemiology, and clinical characteristics of Severe Acute Respiratory Infection.

### 3. CONCLUSION

A male of age 30 year old from Malegaon was admitted to SARI-HDU, AVBRH on 19<sup>th</sup> May 2021 with complaint of swelling over face on Right side and Breathlessness with the help of HRCT thorax it is diagnose as Severe Acute Respiratory Infection. As soon as he admitted in hospital investigation were done and appropriate treatment were started and after getting treatment, it is a very important to diagnose in early stage so that the patient will not develop complication from the disease. It important to take preventive measure. My patient shows great improvement after getting the treatment and the treatment was still going on till my last day of care.

### DISCLAIMER

The products used for this research are commonly and predominantly use products in our area of research and country. There is absolutely no conflict of interest between the authors and producers of the products because we do not intend to use these products as an avenue for any litigation but for the advancement of knowledge. Also, the research was not funded by the producing company rather it was funded by personal effort of the authors.

### CONSENT

As per international standard or university standard, patient's written consent has been collected and preserved by the author(s).

### ETHICAL APPROVAL

As per international standard or university standard written ethical approval has been collected and preserved by the author(s).

### COMPETING INTERESTS

Authors have declared that no competing interests exist.

### REFERENCES

1. Clinical characteristics and outcomes of patients with severe acute respiratory infections (SARI): results from the Egyptian surveillance study 2010–2014. Ashraf Hatem, Sherif Mohamed, Usama E. Abu Elhassan, Eman A. M. Ismael, Magda S. Rizk, Amany El-kholy & Mohamed El-Harras *Multidisciplinary Respiratory Medicine*. 2019;14:11 .
2. Datta P. *Paediatric Nursing*. 2<sup>nd</sup> Edition. New Delhi: Jaypee Brothers Medical Publishers. 2018;479-485.
3. Li J, Song CL, Wang T, Ye YL, Du JR, Li SH, Zhu JM. Etiological and epidemiological characteristics of severe acute respiratory infection caused by multiple viruses and *Mycoplasma pneumoniae* in adult patients in Jinshan, Shanghai: A pilot hospital-based surveillance study. *PloS one*. 2021 Mar 22;16(3):e0248750.
4. Dagne H, Andualem Z, Dagne B, Taddese AA. Acute respiratory infection and its associated factors among children under-five years attending pediatrics ward at University of Gondar Comprehensive Specialized Hospital, Northwest Ethiopia: institution-based cross-sectional study. *BMC pediatrics*. 2020 Dec;20(1):1-7.
5. Brunner & Suddath's, *Textbook of Medical Surgical Nursing*, 12<sup>th</sup> Edition: 78-83.
6. Lewis, vol.2, *Medical Surgical Nursing*. 2<sup>nd</sup> Edition: 1451-1453.
7. Lippincott. *Manual of Nursing Practice*, 10<sup>th</sup> Edition: 1494-1510.
8. Tillekeratne LG, Bodinayake CK, Simmons R, Nagahawatte A, Devasiri V, Arachchi WK, et al. Respiratory viral infection: An underappreciated cause of acute febrile illness admissions in southern Sri Lanka. *The American journal of tropical medicine and hygiene*. 2019 Mar; 100(3):672.
9. Williams BG, Gouws E, Boschi-Pinto C, Bryce J, Dye C. Estimates of world-wide distribution of child deaths from acute respiratory infections. *The Lancet Infectious Diseases*. 2002 Jan 1;2(1):25-32.
10. WHO. *The global burden of disease: 2004 update*; 2020.
11. Mutucumarana CP, Bodinayake CK, Nagahawatte A, Devasiri V, Kurukulasooriya R, Anuradha T, De Silva

AD, Janko MM, Østbye T, Gubler DJ, Woods CW. Geospatial analysis of dengue emergence in rural areas in the Southern Province of Sri Lanka. Transactions of the

Royal Society of Tropical Medicine and Hygiene. 2020 Jun 1;114(6):408-14.  
12. Lippincott. Manual of Nursing Practice, 9<sup>th</sup> Edition: 281-307.

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