

## Case Report

# Cohort case series of swine flu cases admitted to hospital

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### ABSTRACT

Swine flu is a disease of great concern but warrants no panic. General public and some medical professionals consider Swine flu as highly fatal disease with universal mortality. We present here ten cases of category C Swine flu cases admitted during a period of one month with good outcome. We analysed their symptoms, clinical signs, prehospital treatment, time lapsed before admission, time taken for symptomatic improvement and duration of hospital stay. We also categorized co-morbid conditions and outcomes. Variations in laboratory findings and chest X-ray abnormalities were discussed. Patients were followed up for three months for evidence of any residual disease and requirement of readmission. Restlessness is the most useful sign to pick up a case of H1N1 from other similar illnesses.

**Keywords:** Swine flu, PCR, Irritability, Oseltamivir

## INTRODUCTION

In the literature there were many retrospective and epidemiological studies of the swine flu. Here we report ten cases that were admitted under one physician in a tertiary hospital during one month period. It all started with admission of a member of parliament with swine flu, returning from Republic day celebration. The event was extensively covered by media hence most of the category c swine flu cases approached this particular hospital for medical care. Influenza A virus is responsible for the swine flu. This pandemic began in Mexico in 2009 spread over more than 190 countries.<sup>1</sup> It is spread through coughing, sneezing from infected person. Every item, the door handles, computer keyboard, TV remote, mobiles and keys can harbour virus. Recent outbreak in India was the worst of its kind 35,000 people were infected and 2335 deaths were reported from 1st January to 21 April.<sup>2</sup> Our present study is from the same period.

## CASE REPORT

### Methods

All the cases of throat swab positive, category C, swine flu cases admitted under care of the author between 28 January 2015 and 28 February 2015 were taken for analysis. Throat swabs were analysed at SRL diagnostics by real time PCR method for H1N1 influenza virus. These cases were analysed for age, sex, travel, exposure to suspect case, vaccination status, prior treatment with antiviral and antibiotic, duration of illness before admission, hospital stay, symptoms at admission, clinical signs, associated diseases, laboratory results, time taken for symptomatic benefit, residual respiratory and neurological symptoms, contacts tested positive, need for readmissions during three months follow up and outcomes. Permission was taken from hospital administrators for collecting and analysing data. All the care taken not to disclose identity of individual patients. Children were not included in the study. All the patients

received Oseltamivir 75 mg two times a day or 150 mg twice a day if weighed more 60 kg. They were administered antibiotics if they had pus cells in sputum microscopic examination, pulmonary infiltrates on chest skiagram or pathogens grown on culture.

## RESULTS

10 cases were admitted during one month period, female are more affected than men in the ratio of 6:4 average age being 40.1. None of them received influenza vaccine or antiviral drugs prior to admission. 80% of them has relevant travel history, 30% of them were exposed to swine flu infected patients. Duration of symptoms prior to admission ranged from 10 to 2 days average being 4 days. 30% of them received antibiotics before to admission.

All of them (100%) had fever at the time of admission, 90% had cough and 70% had productive cough. Sore throat was a common (100%) complaint and 90% of them were breathless at admission. Vomiting after a cough or spontaneous were noted 70% of people but 20% patients only complained frequent stool at admission. But more people developed diarrhoea during hospital stay after antiviral treatment started. 80% of patients complained headache and all of them had myalgia and arthralgia (100%). Two of them had chest pain (20%), one of them was an asthmatic and the other had prolapsed mitral valve without regurgitation.

Restlessness is the pointing clinical sign towards swine flu (100%) and helps the clinician to suspect the disease in the presence of respiratory symptoms as per author's experience. 80% had tachycardia and tachypnea. 70% of the patients received oxygen supplementation. 40% of them were hypotensive requiring rapid intravenous fluid infusion. Half of the patients had ronchi (50%), all of them had history of bronchial asthma. Three patients had crepitations (30%) on auscultation. None of the patients had any skin rash (0%) at the time of admission or during hospital stay.

Total leukocyte count varied from 16000 to 3000 average being 3500, most of them neutropenic. Erythrocytes sedimentation rate elevated in 4 patients (40%) one pregnant, two asthmatics with pulmonary infiltrates and one no associated disease. Platelets were below normal at the time of admission in two patients (20%) and count became normal on third day in both the patients. Serum bilirubin increased in two patients (20%), transaminases increased in three patients (30) and both came back to normal in 4 days. Alkaline phosphatase, urea, creatinine, electrolytes were normal in all patients. Only one patient (10%) was anaemic. Three patients (30%) had abnormal ECG in the form of tachycardia. Four patients (40%) had pulmonary infiltrate among one had leucocytosis. One patient was pregnant (10%) among the three diabetics (30%). Four patients were obese (40%), body mass index

more than 30. One patient had sinusitis (10%) at the time of admission.

It took 5 to 3 days for symptomatic improvement, average being 4 days and average stay being 5 days. One had symptoms suggestive of peripheral neuritis (10%) and none of them had residual respiratory symptoms at the end of three months follow up. None of the patients required readmissions. No patient required mechanical ventilation and there was no mortality. Close contacts of four patients tested positive for swine flu one (10%) had severe disease requiring hospitalisation. All the close contacts were treated with antiviral drugs as per guidelines.

## DISCUSSION

Swine flu can be easily transmitted by household contacts, 9% cases may be asymptomatic and most of infected persons may have mild disease. In our series 80% people have relevant travel history and 30% had exposure to infected person. Females outnumbered men in our series and average age of the patients is 40.1 higher than other series as children were not included. Duration of symptoms of 4 days prior to admission matched with other series. All the cases in our series presented with fever, sore throat and arthralgia. In some other studies there were patients without fever.<sup>3</sup> 80-90% patients in the series had headache and breathlessness higher than epidemiological series might be due to category C patients we have treated. Only 20% complained of diarrhoea at admission which is not a feature if other influenza illnesses.<sup>4</sup> But more people developed frequent stools after starting antiviral drugs though diarrhoea is not common side effect reported with Oseltamivir.

Restlessness is common finding in all patient admitted, author feels the clinical sign that gives hint of H1N1 among all the other respiratory symptomatic. Clinical signs of tachycardia tachypnea and hypotension are as with other series. Symptomatic period during hospitalisation was 4 days comparable other studies. Half of the patients had history of bronchial asthma, a study from Madras medical college also opined that asthmatic and tuberculosis patients were frequently involved and suffered more.<sup>5</sup> Asthmatic report earlier as more respiratory symptoms in addition to asthma bring them to hospital early. None of our patients had skin rash. Third trimester pregnant ladies are commonly effected and has highest mortality.<sup>6</sup> In our series one pregnant woman who was on insulin for gestational diabetes was effected but uneventful recovery and delivered a healthy baby. Though 30% were obese they did not do worse and obese people reported bad outcomes in earlier study.<sup>7</sup> None of our patients were above 60 years age consistent with earlier reports that elderly people carry less infection rates and mortality due to immunological status induced by previous exposures.<sup>8</sup> One patient had peripheral neuritis in contrast to seizures and encephalopathy in previous study.<sup>9</sup>

One had leucocytosis and rest had leukopenia, 20% had initial thrombocytopenia, 30% rise in transaminases, 20% had elevated serum bilirubin 40% had Pulmonary infiltrates at admission comparable with previous studies.<sup>10</sup> In contrast 40% patients had high ESR, among them one is pregnant, three had pulmonary infiltrates on chest X-ray.

During three months follow up none had residual respiratory symptoms related to swine flu and none required readmission for any cause. There was no mortality, hopeful postulation that starting antiviral drugs may be helpful in containing disease. If not a cure, to reduce the viral shedding.<sup>11</sup> Clean tissue paper to cover mouth and nose while coughing and sneezing is of public importance, CATCH IT, BIN IT, KILL IT is a great slogan.<sup>12</sup>

## CONCLUSION

Swine flu, though a disease of high concern need not be panic. Recognising the disease early and starting antiviral drugs on clinical suspicion rather than waiting for laboratory reports is of help. Preventive measures, health education, isolation of positive cases and treating the contacts will help to reduce the burden of disease on society to some extent. Mortalities are not as high as public believed.

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