

A Study on H1N1 Case in Paediatrics Department of GGH/GMC, Guntur

K. Vani Bai¹, P. Jhansi Rani², M.s. Raju³

ABSTRACT

Introduction: Influenza A (H1N1) virus infection was first seen in Mexico and later spread quickly to United States and worldwide as a pandemic including India. During the H1N1 pandemic of 2009-2010, the number of hospital admissions and mortality rates were high in India as well as globally. The goal of this study was to analyse the clinical and epidemiological profile of Influenza A positive cases which were reported in the flu isolation unit in the hospital during the year 2015 and to examine the epidemiological trends of this disease.

Material and Methods: This was a hospital based study conducted in Government general hospital, Guntur Medical College which was an officially designated as swine flu nodal centre since 2009. Children with influenza like illness of category B and C were hospitalised and samples sent for confirmation.

Results: Males were more frequently affected (61%) than females (39%). Majority of the children affected with swine flu belonged to the under-five age group (84.5%) and 6-15 years children accounted for only 15.5% of the swine flu cases. Fever, cough and cold (100%) were the most common clinical manifestations followed by S.O.B (25.55%), diarrhoea (11.11%), sore throat (3.33%) and convulsions (2.22%). Majority of the patients belonged to category C (55.56%) followed by category B (44.44%). Peak admissions were in the month of February (36.84%). The mortality rate was very low.

Conclusion: This study has shown that the prevalence of Influenza A (H1N1) is high in the under-five children. Fever, cough and cold are the most common presenting symptoms. Though the study was mainly from a nodal hospital, the information collected was for only a limited period. A longer time study is required to understand the seasonal variation of the Influenza virus.

Keywords: H1N1 Influenza, Fever, Cough

INTRODUCTION

Influenza A (H1N1) virus infection was first seen in Mexico and later spread quickly to United States and worldwide as a pandemic including India. During the H1N1 pandemic of 2009-2010, the number of hospital admissions and mortality rates were high in India as well as globally. This study aimed to determine the clinical and epidemiological profile and to study the morbidity/mortality pattern in cases found positive for Influenza A H1N1 at the GGH Guntur in 2018-2019

MATERIAL AND METHODS

It was a hospital based study conducted in GGH Guntur after due permission from the Institutional ethical committee. We adopted the standard international definition of a case

as H1N1 Influenza confirmed “as a patient who is positive in a real time RTPCR test as confirmed in a laboratory”. A total of 69 cases were admitted during the period from November 2018 to February 2019 and out of this 40 cases were confirmed positive for H1N1 by the Microbiology department in government medical college, Guntur Standard categorisation of H1N1 of symptoms is based on the Union Ministry of Health and Family Welfare, Government of India. These categories are three in number and all admitted patients were placed in one or more of these three categories, which are shown below

STATISTICAL ANALYSIS

The data was simply a statistical analysis of recorded historical and clinical information. Standard statistical measure like frequency distribution and charts from Excel were created from the data.

RESULTS

Males were more frequently affected (61%) than females (39%) (figure-1). Majority of the children affected with swine flu belonged to the under-five age group (84.5%) and 6-15 years children accounted for only 15.5% of the swine flu cases. Fever, cough and cold (100%) were the

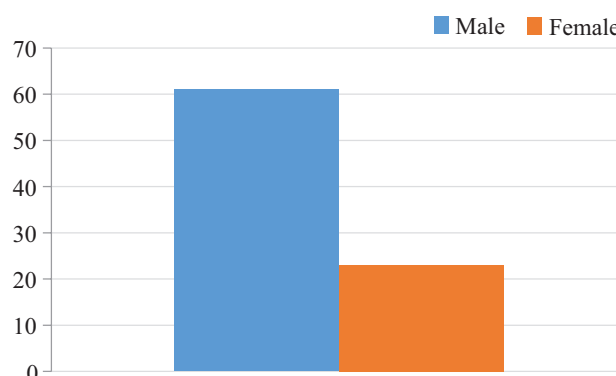


Figure1: Gender

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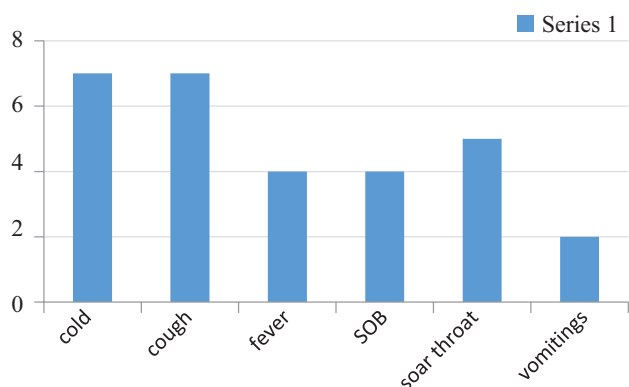


Figure-2: Clinical manifestations

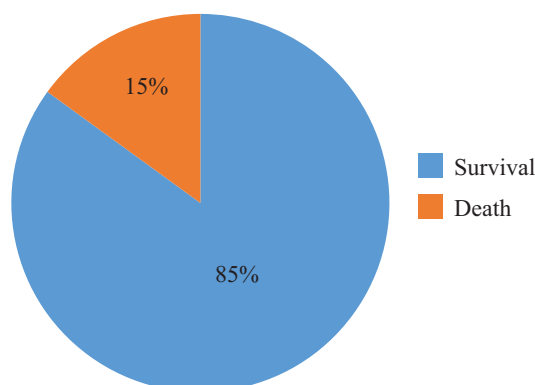


Figure-3: Survival rate

most common clinical manifestations followed by S.O.B (25.55%), diarrhoea (11.11%), sore throat (3.33%) and convulsions (2.22%) (figure-2). Majority of the patients belonged to category C (55.56%) followed by category B (44.44%). Peak admissions were in the month of February (36.84%). The mortality rate was very low.

DISCUSSION

The highest occurrence of H1N1 cases was in the month of February (33%) while the number of positive cases significantly reduced by April. In a study conducted by Mahender Singh et al. from Rajasthan (September 2012-March 2013)¹ similar results were reported. In that study, the largest proportion of patients (33.2%) was admitted in the month of January. Other research studies on H1N1 reported that the usual peak of H1N1 epidemic is between September and December.¹⁻⁶ In our study, the peak was in the month of February, probably because of severe winter and unseasonal rain during that year. Inadequate hygiene and crowded urban infrastructure could have added to the problem. In addition, our study was restricted only to data of four months and not for the entire year. The cases were more in the under-five age group. These findings are similar to a study conducted by Allen C Cheng et al² and Pankaj Kumar Mandal et al.³ Different studies conducted by Guadalupe Ayora-Talavera¹² et al, M. Fabbiani et al, Sabra L Klein¹⁷ et al and Xiao H⁴ et al also showed that young individuals were mostly affected. This study is conducted in paediatric hospital hence only paediatric population data is available. The reason for higher proportion among under-five children

might be that these age groups are in the high risk group. In the present study, males were more frequently affected (61%) than females (39%). the study conducted by Pankaj Kumar Mandal et al³, 71.8% of the cases of influenza (H1N1) which were confirmed were in males. In studies conducted by Xiao H et al and Ling LM et al⁴, higher number of cases effected were males than females. This is consistent with the results of our study. However, other studies by other international researchers (van't Klooster TM et al⁵, Fielding J et al⁶ and Tulloch F et al⁷) reported that rates of hospitalization were higher among females than males. In the studies conducted by Chudasama et al.⁸ (M: F = 1:1), and Puvanalingam et al.⁹ (M: F = 1:1.25) from Gujarat, and Tamil Nadu, respectively, there was no significant difference between males and females. This difference could be accounted by the reason that in India, there seems to be a difference between medical treatment sought by parents for male versus female children and parents could bring male children quicker to the hospital when they fall sick. Fever, cough and cold (100%) were the most common clinical manifestations in our study subjects followed by S.O.B (25.55%), diarrhoea and vomiting (11.11%), sore throat (3.33%) and convulsions (2.22%). The study conducted by Pankaj Kumar Mandal et al³ reveals that fever, cough and sore throat were the most common clinical manifestations in confirmed cases of H1N1 influenza. Similar findings are seen in studies conducted by Allen C Cheng et al², van't Klooster TM et al⁵ and Tulloch F et al.⁷ Similarly, Talavera et al¹⁰ in Southern Mexico, Chudasama et al⁸ in Saurashtra, India reported that fever, cough and headache were the predominant clinical manifestations. Diarrhoea (11.11%) and sore throat (3.33%) were the less common manifestations revealed in our study.

Limitations

This was a hospital based study undertaken in a paediatric department hence information regarding only the paediatric age group is available and the sample size is limited and period of study also less. However the findings are quite consistent with those of other larger studies in India as well as in other countries.

CONCLUSION

During the present epidemic study at our hospital the incidence was higher in under-five children with maximum positive cases occurring in December. Meticulous screening at the community level, prompt treatment and management of the complications and other preventive measures go a long way in curtailing the recurrence of this epidemic. At the public health level continuous surveillance for any resurgence of the infection causing further epidemics/pandemics to be done. Our study is a limited small sample study. It provided epidemiological information on the H1N1 cases confirmed among patients admitted to our tertiary care hospital. However, larger studies involving multiple hospitals as well as data collected from community-based health sector organizations are needed to understand the medical and Government responses to H1N1 Influenza A. The study highlighted the common as well as less common clinical

manifestations of H1N1 influenza cases, males and Under five children were mostly affected which would be helpful to the clinician for early diagnosis and management. A longer time study is required to understand the seasonal variation of influenza virus and its complications.

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