Research Paper   **Medical Science**

Clinico-Demographic Profile of Swine Flu (Confirmed H1n1) Patients Who Did Not Survive in Baroda District, Central Gujarat

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ABSTRACT

Background:
Influenza is an acute respiratory tract infection caused by influenza virus, of which there three types-A, B and C. The disease characterized by sudden onset of chills, malaise, fever, muscular pain and cough. It occurs in all countries and affects millions of people every year. Its behavior is unpredictable(1).

Methodology:
All the patients admitted in the swine flu isolation ward of both Government and Private Hospital of Baroda District was included in this study. This study includes only confirmed H1N1 virus infected patients in Category "C" admitted in "Isolation Ward" during the period of January to June, 2013.

Results:
The median age of fatal case in our study was 34 years and 75% patients were from age group of 21-50 years. (2-3). In this study out of total cases majority of cases (90%) were from the urban areas and only few (10%) from the rural area. In this study among patients with associated Comorbid condition, 16(84%) were discharged and only 3(16%) patients died. Whereas among patients without Comorbid condition, 29(83%) were discharged and 6(17%) died. Most common symptom in fatal cases of influenza A H1N1 was cough followed by breathlessness, high grade fever, mild fever and sore throat. Out of 54 cases, 4 cases had diabetes mellitus and from that 3 case were died. The difference was statistically significant(p=0.012).

Conclusions:
Majority of patients died within 8 day of critical illness. All deaths were reported from urban area. Most common symptom in fatal cases of influenza A H1N1 was cough followed by breathlessness, high grade fever, mild fever and sore throat and the most common co morbidity was DM.

KEYWORDS : Swine flu, Influenza A H1N1, Gujarat.

Background :
Swine influenza, also called pig influenza, swine flu, hog flu and pig flu, is an infection caused by any one of several types of swine influenza viruses. Swine influenza virus or swine-origin influenza virus is any strain of the influenza family of viruses that is endemic in pigs. It is also called as pig flu, hog flu. It is a general term used for a variety of strains of influenza virus commonly found in pigs and people who have frequent close contact with pigs such as, farmers or veterinarians may catch a strain of the swine flu from pigs.(4)

The most extensive and severe outbreaks are caused by influenza A viruses, because of the remarkable propensity of the H and N antigens of these viruses to undergo periodic antigenic variation. Influenza A has 16 distinct H subtypes and 9 distinct N subtypes, of which only H1, H2, H3, N1, and N2 have been associated with epidemics of disease in humans.

The unique features of Influenza epidemic are the suddenness with which they arise, and the speed and ease with which they spread. The short incubation period, large number of subclinical cases, high proportion of susceptible population, short duration of immunity, and absence of cross immunity, all contribute to its rapid spread. The fate of the virus during inter-epidemic period is also not known (5).

The Influenza A H1N1 in humans can be a mild illness or in some people it may result in serious, even life-threatening complications such as pneumonia, acute bronchitis, worsening of chronic conditions, respiratory failure and death. People who are increased at risk for de-veloping serious complications of the Influenza A H1N1 included are person under long term therapy, hospitalized patients, and pregnant women. Other people at risk included are person with an immuno-deficiency disorder and chronic disease etc.(6) The effects of the Influenza A H1N1 can vary from mild to severe life threatening depending on individual factors such as the specific strain of the swine flu, age, general health status and presence of coexisting chronic conditions, such as cancer or diabetes.(7)

Objective:
To identify the common features in the patients who did not survive or poor outcome-death

Methodology:
Cross-sectional observational study was carried out in Baroda district. All the patients admitted in the swine flu isolation ward of both Government and Private Hospital of Baroda District were included in this study. This study includes only confirmed H1N1 virus infected patients in Category "C" admitted in "Isolation Ward" during the period of January to June, 2013.

Before starting enrolment of the participants, necessary clearances and permissions were obtained from concerned authorities and Institutional Ethics committee for Human research (IECHR).

Results and Discussion:
The median age of fatal case in our study was 34 years and 75% patients were from age group of 21-50 years. Parallel to our study, var-

ious studies have also observed mortality more common in younger age group with median age of fatal case as 28 years and 29 years.(2-3)

In this study, as shown in Table 1, Influenza A H1N1 disease affects both gender equally. Also outcome was not affected by gender. There was no statistical significant difference in Male and Female (p=0.242). Also in this study out of total cases majority of cases (90%) were from the urban areas and only few (10%) from the rural area. Hence it is seen that all the fatal cases belong to urban and so outcome is not significantly affected by the residence of patient.

In this study among patients with associated Comorbid condition, 16(84%) were discharged and only 3(16%) patients died. Whereas among patients without Comorbid condition, 29(83%) were discharged and 6(17%) died. This difference was not statistically significant (p=0.940). This may be attributed to non diagnosis of Comorbid conditions at the time of hospital admission or proper history not taken by the attending medical personnel.

In government hospital out of 22 patients, 18(82%) patients were discharged and 5(16%) patients were died. In private hospital out of 32 patients, 27(84%) patients were discharged and 4(18%) died. There was no significant difference seen in type of health care facility and outcome of patient (p=0.901) Most common symptom in fatal cases of influenza A H1N1 was cough followed by breathlessness, high grade fever, mild fever and sore throat.

As shown in Table 2, Out of 54 cases, 4 cases had diabetes mellitus and from that 3 case were died. The difference was statistically significant(p=0.012).People with diabetes are more likely to develop complications from the flu like pneumonia and then need to be hospitalized than people without diabetes.(8)Diabetes increases the likelihood of medical consultation(9) and risk of death(10) due to influenza. Also, diabetic patients are targeted for immunization against seasonal(11) and pandemic influenza A H1N1(12).

Table No 1: Demographic Factors affecting Outcome

Variable	Outcome				X2 test (P value)
	Group	Discharged	Death	Total	
Median Age in years		36.5	34	36.5	
Age	≤50	38(87%)	6(13%)	44	X2=0.614 P =0.433
	>50	7(70%)	3(30%)	10	
SEX	Male	18(78%)	5(22%)	23	X2=0.622 P =0.242
	female	27(87%)	4(13%)	31	
Area	Urban	40(81%)	9(19%)	49	P = 0.575
	Rural	5(100%)	0(0)	5	

Table No 2: Clinical profile affecting Outcome

	Group	Discharged	Death	Total	X2 test (P value)
Associated Comorbid Condition	Present	16(84%)	3(16%)	19	X2= 0.012 P =0.940
	Absent	29(83%)	6(17%)	35	
Type Of hospital	Private	27(84%)	5(16%)	32	X2= 0.015 P=0.901
	Government	18(82%)	4(18%)	22	
Gap between date of onset of symptoms and hospital admission in days	≤5	24(78%)	7(12%)	31	X2=0.969 P =0.272
	>5	21(92%)	2(8%)	23	
Hospital Stays In days	≤10	30(82%)	7(18%)	37	X2= 0.068 P=0.702
	>10	15(89%)	2(11%)	17	

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