

Trends of measles in Nineveh governorate in 2015

Dr. Salih Sulaiman Mahmood⁽¹⁾, Dr. Salih Mohammed Sabri⁽²⁾

Dr. Elyas Ahmed Hussein⁽³⁾

⁽¹⁾ Dept. of medicine, Alshefaa hospital – Mosul city, Iraq.

⁽²⁾ Dept. of medicine, Alshefaa hospital – Mosul city, Iraq.

⁽³⁾ Dept. of medicine, Alshefaa hospital – Mosul city, Iraq.

Abstract

Background: Measles is a highly contagious viral infection affect mainly children, the main symptoms and signs are fever, cough, runny nose and red eyes (conjunctivitis) Koplik's spots and red flat rash.

Aim and Objective: To describe the trends and distributions of measles in the population of Nineveh governorate in Mosul city and to estimate the frequency of clinical features of measles among study population, and to estimate the difference in a rate of infection according to sex and age between males and females , also to estimate the ratio of vaccinated patients with measles to the unvaccinated.

Patients and Methods: during the period between 1st February to the 30th of April 2015 we made a case series study of 84 patients collected of different ages and sexes admitted to Al-Shefaa Hospital in Mosul city.

Results : The distribution of measles in Nineveh governorate was twice in males than females and regarding to the age, the highest rate of infection was found in children within 1-5 years and the least rate of infection was found in adults whose age between 15-45 years (3.6%).

Conclusion: Measles affect males more than females, Measles affect the age between 1-5 years most of the patients infected by Measles having no history of vaccination, the complications of Measles are more severe in Adults.

Keywords: Measles, rash, Koplik's spots.

Introduction

Measles virus is a single stranded RNA virus spread by droplet route⁽¹⁾, Affect mainly children between 1-5 years, The man is the only host of the virus , The incubation period usually between 1-2 weeks⁽²⁾ , prodromal stage begin within three days , after that typical rash will start .⁽³⁾

Initial symptoms include fever usually more than 40°C, cough, runny nose and red eyes⁽¹⁻³⁾

Within three days of symptoms , Koplik's spots will appear inside the mouth which is pathognomonic but it is temporary, The rash is maculopapular spreading from the face to the extremities, it begins several days after the fever starts and last for up to (8) days .⁽⁴⁾

Measles is usually detected clinically and by the finding, serum, salivary glands (IgM) antibodies⁽²⁾, Measles was treated conservatively⁽¹⁾. Normal immunoglobulin can be used in pregnant women⁽²⁾, immune-deficient patients to modify the disease. But must be given within a week of exposure , Many medical centers were used vitamin (A) in measles to decrease ocular defect (blindness)⁽⁵⁾ , Measles can be

complicated by gastroenteritis , chest infection (pneumonia)^(1,3) , corneal ulceration otitis media , and sub-acute sclerosing pan encephalitis , Complications of measles are more severe in malnourished, immune-compromised , pregnant women , measles doesn't cause congenital malformation⁽⁶⁾ . Bacterial complications can be treated by suitable antibiotics⁽⁷⁾ , Measles can be prevented by using (MMR) vaccine , (measles , mumps , rubella) or measles vaccine only⁽⁸⁾ , All children aged between 1-1.5 years should be vaccinated , A booster dose of vaccine can be given at the age of 4 years .

Patients and Methods

This study was done in Alshefaa hospital in Mosul city, The study was conducted over the period of two months extended from 1st February to the 30th of April. 2015.

A case series study was adopted in order to achieve the objective of this study.

The study population consist of 84 patients from both sexes and from different ages. Ranging from one year up to forty five years, attending Al-Shefaa Hospital and they had been diagnosed by the specialists.

Results

about twice time than the females as shown in the Table 1 below.

2. Age distribution:

The patients were among the ages 1-5 years recorded to be the more ages infected by measles and the least ratio in the ages between 15-45 years which was (3.6%).

In this study, we had 84 cases of measles. All reported cases are living in Nineveh governorate are reported to be affected by measles.

Sex and age distribution:

1. The sex:

The distribution of measles in Nineveh governorate regarding to the sex showed that the measles in males was

Table (1): Sex and age distribution.

year	Male		Female		Total	
	Number	%	Number	%	Number	%
< 1	11	19.7	6	21.4	17	20.2
1-5	41	73.3	18	64.3	59	70.3
5-15	2	3.5	3	10.7	5	5.9
15-45	2	3.5	1	3.6	3	3.6
Total	56	66.7	28	33.3	84	100

2. Frequency of measles according to the clinical pictures :

The study showed that all of the cases recorded complaining of pyrexia and kopliks spots and few Number of the cases complaining of vomiting (9.5%)

Table 2 : frequency of measles according to clinical pictures .

Symptom		
	Number	%
Fever	84	100
Rash	84	100
Kopliks spot	62	73.8
Conjunctivitis	21	25.0
Cough	32	38.1
Diarrhea	14	16.6
Vomiting	8	9.5
Total	84	

3. Vaccination status:

The most number of the cases recorded not vaccinated and about (1.2%) have no idea about vaccination history while about (17.9%) of the cases reported are vaccinated as shown in the table (1-3) below

Table 3 : Distribution of vaccination status .

Vaccination Status		
	Number	%
Yes	15	17.9
No	68	80.9
Unknown	1	1.2
Total	84	100

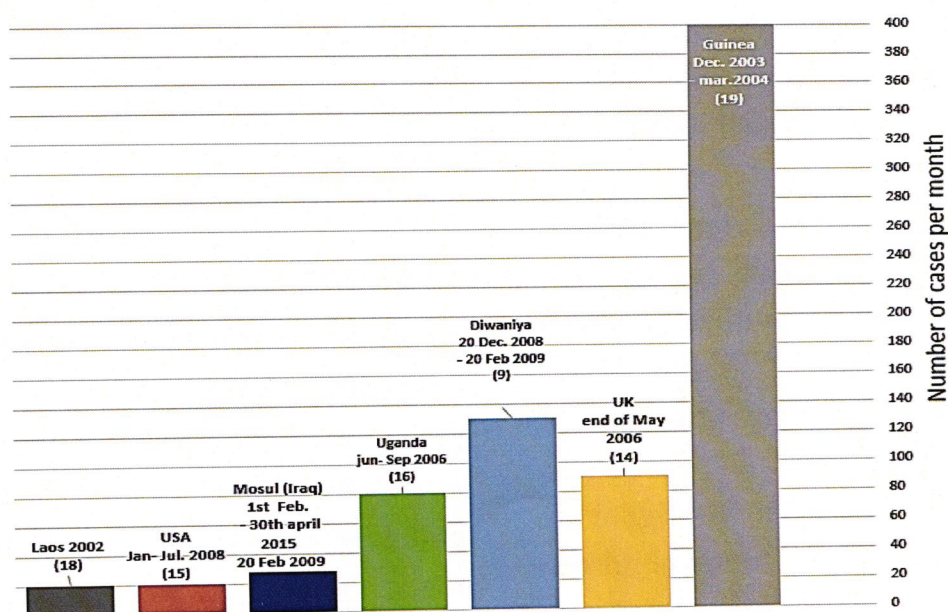
4. Vitamin A Supplementation ^(4,5)

The study show that about (80%) of the cases reported was responded to vitamin A supplementation . the dose of vitamin A is 50000 International unit for the children less than (6) months of age , and 100,000 International unit for the age between (6 months – 1 year) and 200,000 International unit if the age more than 1 year . Vitamin .A is given single dose daily for (2 days)

Table 4: Distribution of cases according to the provision.

Supplied With Vitamin A		
	Number	%
No	16	19.9
Yes	68	80.1
Total	84	100

Table (5) shows the frequency of measles in Nineveh governorate in comparison with other places



Discussion

Measles is an endemic in Nineveh governorate and many other countries including the developed ones with variable out breaks every 2-3 years . The sex distribution of measles in Nineveh governorate as shown in table one. The rate of infection of measles is twice in males 66.7% than females 33.3% if we compare our results with the study done in Diwaniya city (Iraq) done by Dr.Mohammed Mojar Al-Shmsi and his colleagues during the period December 20,2008 to February 20,2009 on 260 cases of measles admitted to the maternity and children teaching hospital in Diwaniya city the results are 64% males and 36% females⁽⁹⁾ so that there were no much differences in the results in Nineveh governorate . Regarding the age distribution it is higher rate in children aged between 1-5 years (70.3%) . This high figure maybe partially due to vaccine failure which occurs in approximately 5-15% of vaccine recipients after a single dose of vaccine. Waning immunity after immunization may also be a factor⁽¹⁰⁻¹¹⁾. For those children whose ages less than 1 year the rate of measles distribution is 20.2% this figure is relatively high as those children

are supposed to be protected by passively acquired maternal antibodies against measles. Decay or loss of maternally acquired measles antibodies is a well-known factor. The highest morbidity rate was also observed among children less than 9 months in Sri Lanka outbreak suggesting the waning passive immunity in infancy⁽¹²⁾ . The reasons for earlier loss of maternal antibodies in the developing countries include⁽¹³⁾ .

1. Lower antibody level among mothers.
2. Decreased efficiency of transplacental transfer of measles immunoglobulin G .
3. Increased catabolism of passive antibodies because of frequent infections in infancy .
4. Loss of antibodies in to the intestinal lumen during diarrheal illness.

The frequency of measles cases in Nineveh governorate in comparison with other places is shown in Table 5⁽¹⁴⁻¹⁷⁾.

Conclusion:

Measles in Nineveh governorate is not different from that in other parts of the developing countries i.e. it is an endemic disease with variable out breaks every now and then.

1. Measles in Nineveh governorate affects males more than females.
2. Measles in Nineveh governorate mainly affects the ages between 1-5 years.
3. Most of the patients infected by measles having no history of vaccination.
4. Complications of measles are frequent and it is ranging from mild complications such as diarrhea to serious complications such as pneumonia (either direct viral pneumonia or secondary bacterial pneumonia), otitis media, and corneal ulceration leading to corneal scarring complications are usually more severe in adults who catch the virus.

Recommendation:

1. Intensification of measles immunization coverage in this governorate is probably the best measure in preventing further measles outbreak.
2. All measles cases should be supplied with vitamin A according to their age
 - a. 50,000 international unit for those less than 6 months for two successive days only.
 - b. 100,000 international unit for those ranging between 6 months to one year for two successive days only.
 - c. 20,000 international unit for those more than 1 year age for two successive days only.

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