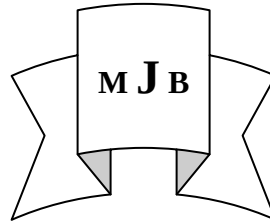


Adulthood Measles in Babylon Province Admitted to Marjan Teaching Hospital in 2008

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Abstract

Back ground and study objectives: This is paramyxovirus infection and is endemic world-wide. It is probably the most infectious of all microbial agents. Before immunization campaigns, measles occurred in almost 100% of children. In temperate areas there is a natural epidemic cycle every 2-3 years. Natural illness produces life-long immunity.

Patient and methods: 50 cases of measles that admitted to the Marjan teaching hospital, between 1/1 – 1/10 2008 were included, all of them at adult age (mean age 21 years) and clinical evaluation had been done on these cases in addition to study of its distribution on both sex, age distribution, geographical distribution, effect of vaccination on occurrence of this infection, the most common symptoms and signs and complications that occurred during the course of the disease, also effect of this virus infection on some haematological and biochemical investigation. We compared the result of some of these data with previous years inpatient data on the same hospital. The patients were followed for an average of 10 day.

Aim of study: The aim is to evaluate the occurrence of this viral infection on adult hood age group in Babylon province that were admitted to Marjan teaching hospital isolation rooms and to study the most important clinical presentation and complication on this age group and to evaluate the clinical behaviors of this virus on this age group.

Results and conclusion: It was noticed that the occurrence of this virus is changing on the adult hood age with most serious reported complication had been noticed on this age group, 50 cases were collected and it is more in female at this age group than male, and the age between 21-26 years are the most common age affected (26 patients) 52%, the center of Alhilla had more cases than other peripheral areas, non vaccinated peoples are more than the vaccinated one, the hottest month (July) show the peak admission rate of cases of measles, conjunctivitis is the most common complication and pneumonia is the most serious one with high mortality.

الخلاصة

أهداف الدراسة والخلفية: هذه العدوى الوبائية بواسطة paramyxovirus هي عدوى عالمية مستوطنة. وهي من المحتمل ان تكون الأكثر عدواً لكل الوكلاء المكروبيين. قَبْلَ قيام حملات التلقيح كانت الحصبة تحدث في تقريباً ١٠٠ % من الأطفال. في المناطق المعتدلة هناك دورة وبائية طبيعية كل سنتان الى ثلاث سنوات. يُنتج المرض الطبيعي مناعة دائمة.

المرضى وطريقة البحث: ٥٠ من حالات الحصبة التي ادخلت إلى مستشفى مرجان التعليمي، بين ١ / ١ - ١٠ / ٢٠٠٨ تضمنت هذه الحالات الاعمار الباعة فقط (عمر متوسط، ٢١ سنة) وتقييم سريري كان قد عمل على هذه الحالات بالإضافة إلى دراسة توزيعها على كلا الجنس، توزيع عمر، توزيع جغرافي، تأثير التطعيم على حدوث هذه العدوى، الأعراض والإشارات والتعقيدات الأكثر شيوعاً الذي حدث أثناء فصل المرض، أيضاً تأثير هذه عدوى الفيروس على البعض النتائج المختبرية للدم وتحقيق كيميائي حيوي قارناً نتيجة البعض من هذه البيانات بسنوات سابقة على نفس المستشفى.

هدف الدراسة: إنَّ الهدفَ أَنْ يُقَيِّمَ حدوثَ هذه العدوى الفيروسية على مجموعةٍ عُمريّةِ القلنسوةِ البالغةِ في محافظةِ بابل التي أُدخلتْ إلى عُزْبِ عَزلةٍ مستشفَى مرجانِ التعليمي ولِلدِّرَاسةِ التَّقْدِيمِ والتَّعْقِيدِ السريري الأكثرَ أھمّیةً على هذه مجموعةِ العُمريّةِ ولتَقْیِیمِ السُّلُوكِ السريري هذا الفيروس على هذه مجموعةِ العُمريّةِ.

النتائج والخاتمة: لوحظَ بأنَّ حدوثَ هذا الفيروس يَتَغَيَّرُ على عُمُرِ القلنسوةِ البالغِ بِأَكْثَرِ التَّعْقِيدِ المُخْبِرِ عَنْهُ الجَدِّي كَانَ قَدْ لوحِظَ على هذه المجموعةِ العُمريّةِ، ٥٠ حالة جُمِعَتْ وهي أَكْثَرُ في الإناث في هذه المجموعةِ العُمريّةِ مِنَ الذُّكُورِ، والعُمُرُ بَينَ ٢١-٢٦ سنة العُمُرِ الأكثرَ شِیوعاً (٢٦ مريض) ٥٢ %، مركزِ الحلة كَانَ عِنْدَهُ حَالَاتٌ أَكْثَرُ مِنَ المَنَاطِقِ الخَارجِیَةِ الأُخْرَى، المَرْضَى الغَیْرِ مَلْقُوحُونَ أَكْثَرُ مِنَ المَلْقُوحُونَ ، كانَ الشَّهْرُ الذی فِیهِ اعلی نسبة دخول هو شَهرُ تموز ، وكانَ التَّهابُ قَرْنِیةِ العَیْنِ والطفحُ الجلدي هو أَكْثَرُ الاعراضِ التي یَشْکُو مِنْهَا المَریضُ بَینَمَا كانَ التَّهابُ الرِّئَةُ أَخطَرُ المضاعفاتِ التي حَدَثَتْ وامتازت بالفناء العالی .

Introduction

Meadles is a paramyxovirus infection is endemic world-wide, closely related to the viruses causing canine distemper and rinderpest in cattle. Virions consist of an inner nucleocapsid that is a coiled helix of three proteins (N, P, L) and RNA and an envelope containing three proteins (M, H, F).[1-4] . Before immunization campaigns, measles occurred in almost 100% of children(1) , Maternal antibody gives protection for the first 6 months of life[1].

■ In temperate areas there is a natural epidemic cycle every 2-3 years, less obvious in the tropics [1,2,5]

■ With live attenuated vaccine, the condition is potentially completely controllable by immunization.

■ The WHO has set the objective of eradicating measles by the year 2010 as part of its expanded programme of immunization.[1]

■ Incomplete vaccination of only 70-80% of the population may lead to outbreaks in older children and adults, in whom complications are more frequent. This necessitates repeat mass immunization campaigns or second dosing of vaccine in an older age group.

■ Natural illness produces life-long immunity [1,2,6]

Measles is a highly communicable infection. Despite the remarkable progress made in measles control with

the introduction of measles vaccination; it is estimated that in 1997 nearly one million deaths from measles still occurred, half of them in Africa. Outbreaks of measles continue to occur even in highly vaccinated populations [2].

Clinical Features

■ Infection is by droplet spread with an incubation period of 14 days to onset of rash.[1,2]

■ A prodromal illness 1-3 days before the rash appears heralds the most infectious, 'catarrhal' stage with upper respiratory symptoms, conjunctivitis and the presence of Koplik's spots on the internal buccal mucosa, these small white spots surrounded by erythema are pathognomonic of measles. At this stage the patient is miserable, irritable and photophobic.

■ As natural antibody develops, the rash appears , lasting 5-6 days and gradually fading with 'staining' in the pale-skinned.

■ Generalized lymphadenopathy and diarrhea are common, with bacterial pneumonia in approximately 4% of cases. Convulsions occur in approximately 1% and long-term damage can result in the rare occurrence of subacute sclerosing panencephalitis (SSPE) up to 7 years after infection.

■ The typical rash may be missing in the immunocompromised and persistent infection with a giant cell pneumonitis or

rapidly progressive encephalitis may occur.

■ As with many childhood exanthemas, disease is more severe and prolonged in adults [5].

■ The mortality of measles is less than 1% world wide [1,3], and the over all mortality are more in adult and mostly related to complications , world wide this mortality is decreasing according to study published by WHO at 2007 [6].

Although there is no cure for measles, there are steps that can make the disease more tolerable. These include the following:

■ Get plenty of rest.

■ Sponge baths with lukewarm water may reduce discomfort due to fever.

■ Drink plenty of fluids to help avoid dehydration.

Pain relievers and fever reducers such as acetaminophen. Remember never to give aspirin to children or teenagers because it may cause a disease known as Reye syndrome [7]. Vitamin A can play some rule on decreasing the duration of the illness and bed ridden time [1,7]. The most effective way to prevent measles is through immunization., which is started at age of 12-15 month, this program has been started since 1967 in USA , and it is aimed to reduce mortality by more than 90% at 2010 [8].

Despite the over all disease caused by this virus it is worthy to mention that this virus is highly promising in the new modality of treatment of some cancer [9].

Patients and Methods

This is observational statistical study done in Marjan teaching hospital from January to October 2008 , 50 patients of measles had been collected from 1\1 to 1\10 -2008 .all of them are on adulthood age (more than 12 years old)...all of these cases were admitted into Marjan teaching hospital , into isolation ward and were followed on daily base for an average of 10 days , the diagnosis had been made mainly through course of disease and clinical presentations and examination (fever, morbiliform rash ,Kopliks spot..etc), suspicious cases had been excluded.

■ Concentration made on important complications like conjunctivitis, pneumonitis, gastroenteritis.

■ Also we concentrate on geographical distribution of these cases, sex distribution, and age distribution .

For all cases blood sample were taken and send for AB detection against measles , and all cases show positive result , cases with negative result were excluded from the study.

Results

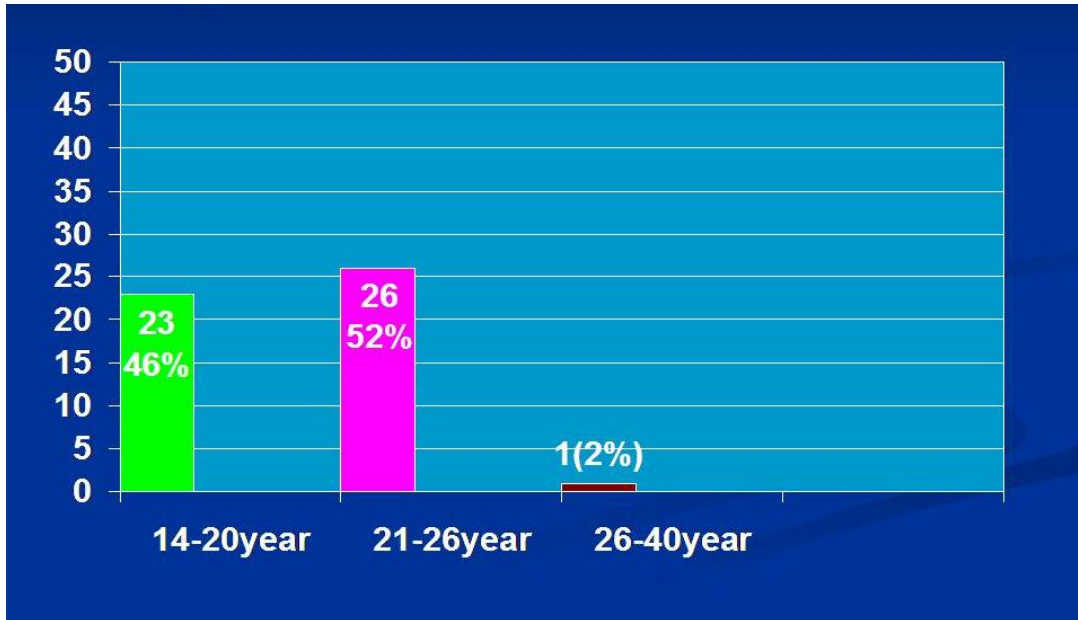


Figure 1 age distribution of adult hood measles

The research show that the most common age group that is affected by measles is the age between 21 -26 years old (52%) , while the age between 14-20

is affected by in 46% . the infection is very rare between the age of 26-40 years (2%) .

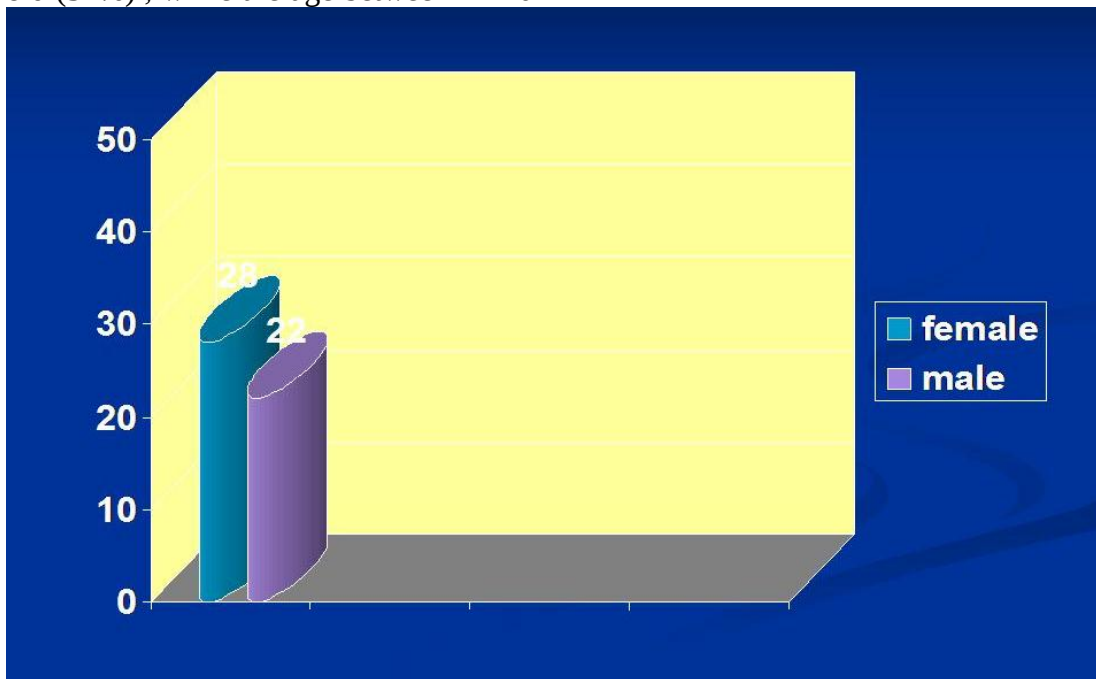


Figure 2 sex distribution

The infection hit female more than male, in our study the female was 28, while male 22

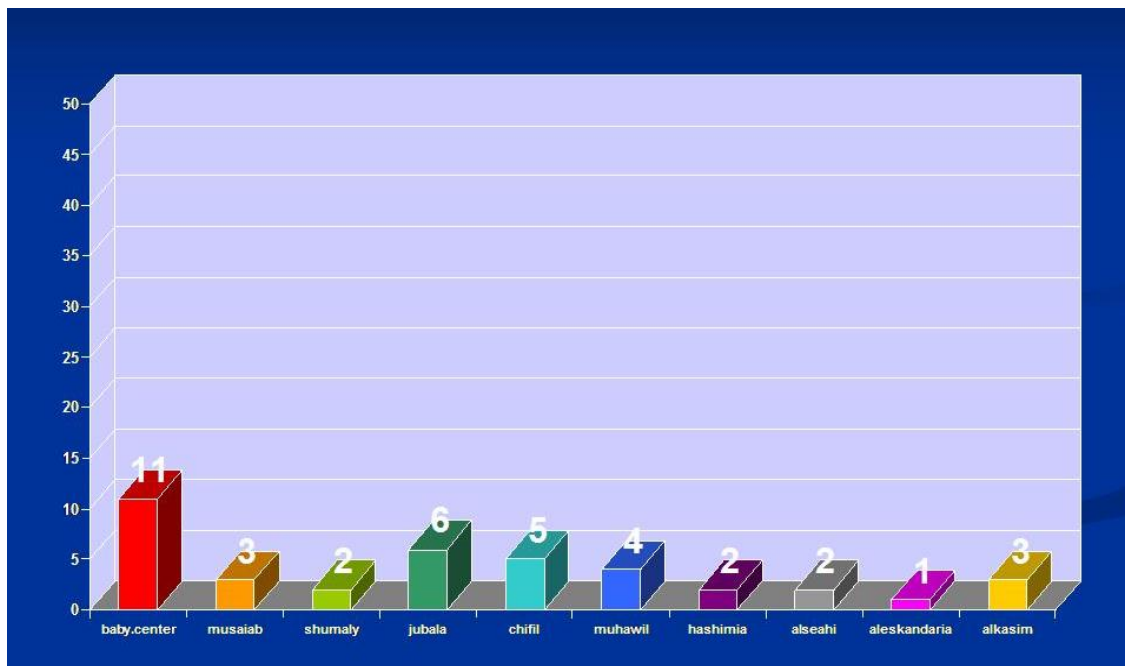


Figure 3 : Geographical distribution of measles

The infection noticed more at Babylon center (Al Hilla) , while Al Eskandaria show the least number of cases .

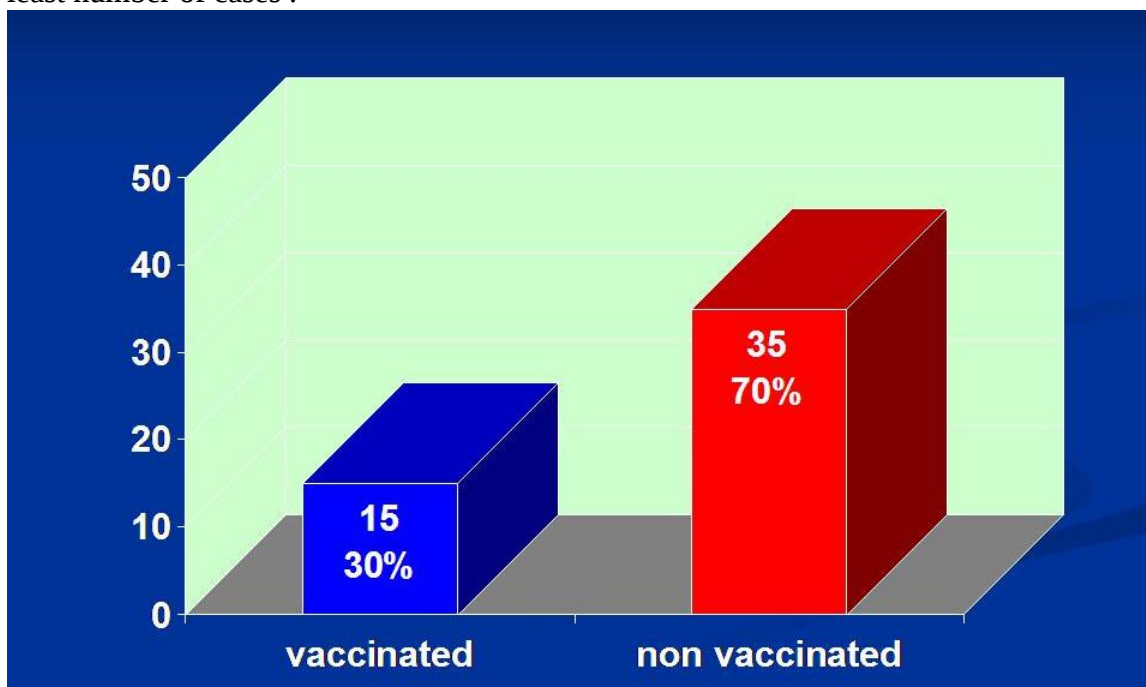


Figure 4 Vaccination history

Vaccination history is elicited in only 30% of cases , while 70% of cases gave no vaccination history most of them they

don't remember exactly and their family also were not able to be sure from vaccination history .

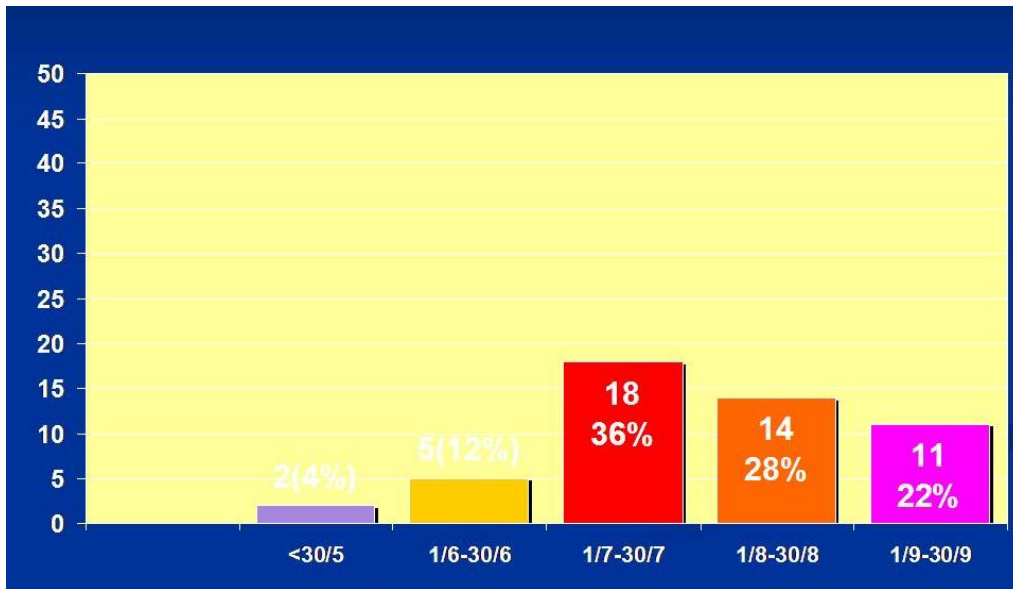


Figure 5 Number of cases admitted per month

Time distribution of infection during the year

It was noticed that the time between 1-30 /7 show the peak increase in numbers

of cases (36%), and was not recorded before April .

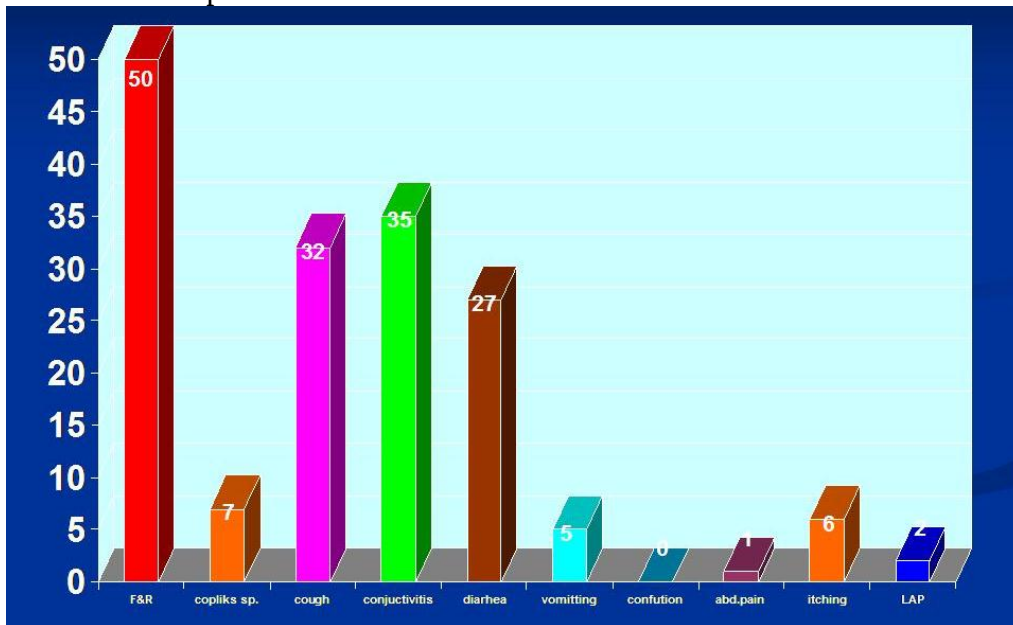


Figure 6 Symptom and complication

Fever and rash of course were the most important and the commonest symptoms in all cases, the next were the

conjunctivitis and cough then the diarrhea and the least were the confusion and abdominal pain .

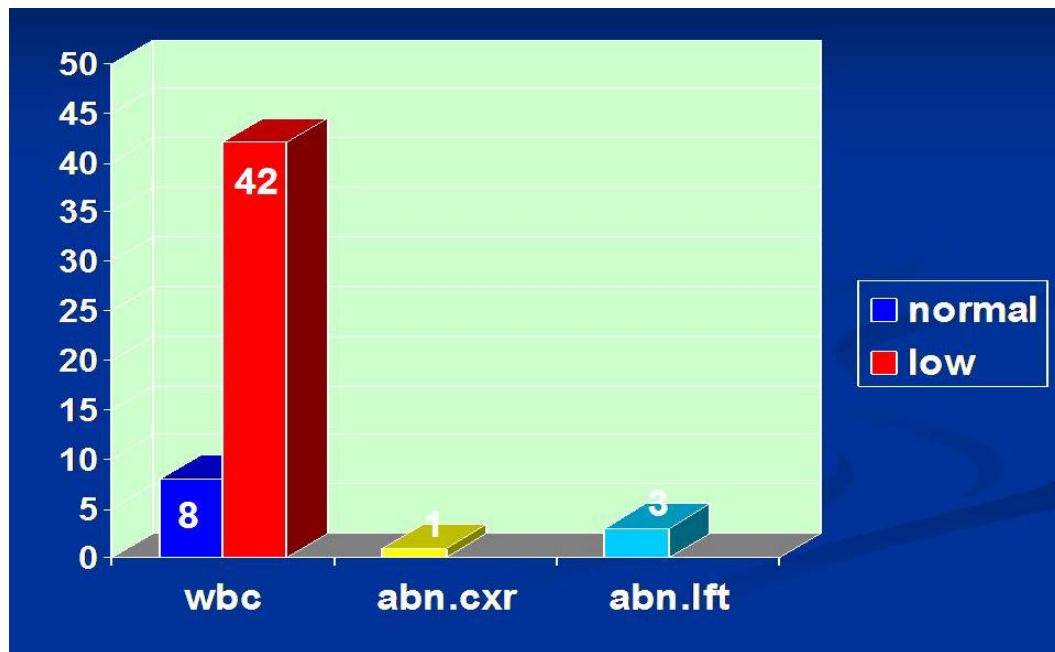


Figure 7 show the most important abnormal investigation , specially the low WBC count that was noticed in about 84% of cases , while the abnormal liver function test was noticed in 6% of cases(3 cases). homogenous infiltration seen on chest X ray for patients with measles in only 2% of cases (1 femal case) that was very tired and need RCU admition because of respiratory failure

Discussion

From the 50 young patients that were collected, the age between 21-26 years was the most common age affected by the virus possibly because of the activity of that age in the society , it is more distributed on females (28) than on males (22).

Among those cases of measles the most common site that came from was from the center of Hilla (22%) and then Geballa (12%), this is mostly explained by the number of people at the center who are more.

Vaccination history was not documented in about 70% of cases.

1/7-30/7 are the time that show peak admition rate to the hospital (36%),

possibly related to the temperature of environment at that time from the year which is good for the virus spread.

The most common clinical features that were noticed are of course the fever and rash (100%) which is compatible with usual literature [1,2], cough (64 %), conjunctivitis (70) and diarrhea(54 %) these presentation more usual than written on most literature [1,2,10], other features are less common , kopliks spots are only noticed in about 14 % of cases, possibly because of delay presentation.

Regarding investigation, 84% of cases show decrease in WBC count, this in part might be related to the ability of the virus to decrease the activation of CD4

WBC [10]. For this reason it is some time called transient HIV like virus.

The data collected in this study was compared with pervious data of admission to Marjan Teaching Hospital from 2000 until 2007 , no such cases were noted ..

So we might suggest the possibility of emerging of new viral strain that able to hit more adult age group than previously did [10] , or possibly it is a marker for failure of previous 15-20 years vaccination program due to possible ineffective vaccine , or due poor follow up and no booster doses, so from these data and study we might expect more cases to be seen in the next years.

Conclusion

From this stud we conclude that measles virus can hit more cases on adult hood age despite our knowledge that it is a virus of child hood age, and that we suspect more complication and duration of disease in this age group, and we need to do more researches about the virus in our country and to reevaluate the vaccine in use.

Recommendation

To do more study to the virus genotype and features that hit the adult, looking for the possibility of new strain, and to take more care and to admit all patients from this age group to hospital infectious unit because more complication seen on those age group than in child age group, also we should concentrate on vaccine and its quality and also to review the vaccination program in our country.

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