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Research Article

**COMPLICATIONS OF MEASLES IN HOSPITALIZED
PATIENTS IN LAHORE**¹Dr Muhammad Sheraz, ²Dr Asad Shabbir, ³Dr Usama Hassan Nawaz¹Allama Iqbal Medical College, Lahore²Quaid e Azam Medical College, Bahawalpur³Allama Iqbal Medical College, Lahore**Article Received:** August 2020 **Accepted:** September 2020 **Published:** October 2020**Abstract:**

Introduction: Study of complications of measles in hospitalized patients. Measles is common under the age of 5. It is transmitted by airborne droplets through the respiratory tract, mainly in the prodromal period (7 days before and 7 days after the appearance of the rash). The measles outbreak occurs during the spring and winter season and is endemic worldwide. In Pakistan, the estimated number of deaths from measles is 81,000 per year among children under the age of 5. Measles is a common cause of immunosuppression which leads to complications. As the morbidity and mortality rate of measles is still very high, this study aims to investigate the complications of measles in hospitalized patients.

Material and methods: The study was conducted at the Pediatric Unit-II of Jinnah Hospital Lahore for one-year duration from March 2019 to March 2020. Children aged 6 months to 12 years were included in the study. All patients hospitalized due to measles and its complications were included in the study. A total of 82 patients were enrolled in this study. As maternal antibodies protect children under 6 months of age, they were excluded from the study. Patients with measles were diagnosed with generalized maculopapular rash, cough, conjunctivitis and fever.

Results: A total of 82 measles patients were included in the study. 63.5% of patients were aged 1-3 years. Men accounted for 45.2% and women 54.8%. Most of the patients, 60.9%, had not been vaccinated against measles. Most of the patients (68.3%) were malnourished. The most common complications were pneumonia (84.1%) and diarrhea (26.8%). Mouth ulcers, otitis media, eye ulcers, and encephalitis were less frequent complications in this study. Most of the patients improved and were discharged home.

Conclusion: Pneumonia, diarrhea, mouth ulcers, otitis media, and encephalitis were the most common complications in this study.

Key words: Maculopapular rash, cough, conjunctivitis and fever.

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INTRODUCTION:

Measles is a viral disease and is more common in children under 5 years of age. It is transmitted by airborne droplets through the respiratory tract, mainly in the prodromal period (7 days before and 7 days after the appearance of the rash). The measles outbreak occurs during the spring and winter season and is endemic worldwide. The overall incidence of measles is 39.9 million, the total deaths are 777,000 and 28 million disability-adjusted life years. In Pakistan, the estimated number of deaths from measles is 81,000 per year among children under the age of 5. Measles is a common cause of immunosuppression, which leads to complications. One in 20 children with measles has pneumonia. And one in 1,000 gets encephalitis⁶. Pneumonia, diarrhea, inability to feed, stomatitis, otitis media, and acute encephalitis are common complications of measles. The most common complication of measles is pneumonia. About 95% of children develop measles antibodies after vaccination at 12 months of age and 98% of children after vaccination at 15 months of age. Measles morbidity, morbidity and mortality are significantly reduced with the right number of vaccinations. In unvaccinated patients the risk of complications is greater than in vaccinated children. Malnourished children experience more complications and stay in hospital longer. The significant proportion of deaths from measles in young children worldwide is due to low body weight for age. Measles is the most common cause of childhood blindness in developing countries. In Pakistan, measles vaccination is lower than 60%. Lack of education and lack of motivation are the main reasons for vaccination failure in our country. Measles outbreaks and complications are due to the

low incidence and low efficacy of vaccines, and therefore high morbidity and mortality.

MATERIAL AND METHODS:

The study was conducted at the Pediatric Unit-II of Jinnah Hospital Lahore for one-year duration from March 2019 to March 2020. Children aged 6 months to 12 years were included in the study. All patients hospitalized due to measles or its complications were included in the study. A total of 82 measles patients were enrolled in the study. As maternal antibodies protect babies less than 6 months of age, they were excluded from the study. In this study, measles was diagnosed with generalized maculo-macular rash, cough, conjunctivitis, and fever. Accelerated respiratory rate or infiltrates on chest X-ray were diagnostic criteria for pneumonia in this study. Diarrhea, stomatitis / oral thrush, eye complications, and otitis media were also reported in this study. The hx vaccination was taken from all patients and also noted on the vaccination card. The nutritional status of these patients was assessed according to the modified Gomes classification. Chest X-ray, CSF R / E, complete blood count, electrolytes were recommended if needed.

RESULTS:

A total of 82 measles patients participated in the study. 63.5% of patients were aged 1-3 years. Men accounted for 45.2% and women 54.8%. Most of the patients, 60.9%, had not been vaccinated against measles. Most of the patients (68.3%) were malnourished. The most common complications were pneumonia (84.1%) and diarrhea (26.8%). Mouth ulcers, otitis media, ophthalmic complications, and encephalitis were less common in this study. Many of the measles patients improved and were discharged.

TABLE 1: Age wise distribution of measles patients (n = 82)

Age	Number	% age
7-12 months	10	12.2
1-3 yrs	52	63.5
3-5 yrs	14	17.0
5-12 yrs	06	07.3

TABLE 2: Sex wise distribution of measles patients (n = 82).

Sex	Number	% age
Male	37	45.2
Female	45	54.8

TABLE 3: Complications of measles (n = 82)

Complications	Number	% age
Pneumonia	69	84.1
Diarrhea	22	26.8
Oral ulcers	09	10.9
Otitis media	08	09.7
Eye complication	02	02.4
Encephalitis	02	02.4

TABLE 4: Vaccination status of measles patients (n = 82)

Vaccination status	Number	% age
Vaccinated	32	39.1
Non-vaccinated	50	60.9

TABLE 5: Nutritional status of measles patients (n = 82)

Nutritional status	Number	% age
Well nourished	26	31.7
Malnourished	74	68.3

DISCUSSION:

In our study, only 39.1% of patients were vaccinated, while 60.9% of patients were unvaccinated. Low vaccine efficacy, loss of immunity with age, loss of vaccine potency due to improper administration of vaccines, vaccine serotype, inadequate vaccination schedule, and lower than optimal immunization coverage in the community are the main causes of increased measles incidence in Pakistan. Similar results were also obtained by Tariq P, Aurangzeb et al. And Younas et al. In this study, the majority of patients were aged 1 to 3 years, which is similar to the results of various foreign and national studies. The most common complication in our study was pneumonia, which is similar to that reported in various national and international studies. Diarrhea was the second most common complication; this has also been reported with roughly the same frequency in some studies. Other complications, such as mouth ulcers, ophthalmic complications, otitis media, and encephalitis, accounted for 10.9%, 2.4%, 9.7%, and 2.4%, respectively. Other studies have also found more or less the same complications. In our study, women account for an overwhelming majority of 54.8%, while in other studies, men dominate. This may be due to fewer vaccinations in women or malnutrition, which is common in girls, which has led to complications in these children. In our study, many patients were not vaccinated against measles. Tariq⁸ reported less than 60% of the vaccination rate, while Khan et al. From Peshawar reported that only 50% of measles patients were vaccinated. Rehman et al. From Abbotabad, the vaccination rate was 57.3%. The 2006 EPI Outreach Survey and the 2006-2007

Pakistan Demographics and Health Survey also found that only half of the targeted children were fully vaccinated with all antigens. In our study, the mortality rate was 3.6% and 89.1% completely improved and was discharged from hospital. In the Khan²⁶ mortality report it was 8.1%, while Mohammad did not report the mortality, and in Islamabad, according to Aurangzeb et al. It was 3.4%. In India, mortality in endemic conditions was 1-2%, and in epidemics 3.37%.

CONCLUSION:

A common complication of measles is pneumonia, diarrhea, mouth ulcers, otitis media, and encephalitis.

REFERENCES:

1. Afsheen, Zobia, Bashir Ahmad, and Shumaila Bashir. "Hospital-visiting pregnant women signal an increased spread of hepatitis C infection in Khyber Pakhtunkhwa region of Pakistan." *Virology journal* 14, no. 1 (2017): 195.
2. TAREEN, DR ADNAN, DR AHSAN BARI, and SANA SALEEM. "FREQUENCY OF PLASMODIUM VIVAX IN PATIENTS HAVING UNCOMPLICATED MALARIA." (2019).
3. Suleman, Muhammad, Rani Faryal, Muhammad Masroor Alam, Adnan Khurshid, Salman Sharif, Shahzad Shaukat, Mehar Angez et al. "Outbreak of dengue virus type-3 in Malakand, Pakistan 2015; A laboratory perspective." *Acta tropica* 169 (2017): 202-206.

4. Jan, Naveed, Zia Ur Rahman Awan, and Mehboob Ur Rahman Awan. "2. Hepatitis C Virus (HCV) infection in general population of District Bannu Khyber Pakhtunkhwa, Pakistan." *Pure and Applied Biology (PAB)* 9, no. 3 (2020): 1679-1689.
5. RAMZI, DR ZUNAIRA TANVIR, DR KHADIJA GHAFOR, and ZARMINA TANVIR. "Frequency of Plasmodium Falciparum in Patients Having Uncomplicated Malaria." *Medicine* 38 (2017).
6. Jan, Naveed, Zia Ur Rahman Awan, and Mehboob Ur Rahman Awan. "Hepatitis C Virus (HCV) infection in general population of District Bannu Khyber Pakhtunkhwa, Pakistan. Pure and Applied Biology. Vol. 9, Issue 2, pp1679-1689." (2020).
7. Rehman, F., M. Shah, A. Ali, A. M. C. Rapisarda, and A. Cianci. "Seroprevalence and risk factors of Toxoplasma gondii infection in women with recurrent fetal loss from the province of Khyber Pakhtunkhwa, Pakistan." *Journal of Neonatal-Perinatal Medicine* Preprint (2020): 1-7.
8. Qureshi, Asma Waheed, Zaib-Ullah Khan, Luqman Khan, Abu Mansoor, and Rashid Minhas. "Prevalence of malaria, typhoid and co-infection in District DIR (lower), Pakistan." *Bioscience Journal* 35, no. 1 (2019).
9. Abdulmughni, Jihan, E. Mahyoub, A. Al Agabri, Y. Abdulwareth, and A. Al-Serouri. "Drug Resistant Tuberculosis: An Emerging Public Health Threat in Yemen, 2014-2016." *Iproceedings* 4, no. 1 (2018): e10532.
10. Khan, Naushad, Mahnoor Naushad, Ayasha Akbar, Shah Faisal, and Shah Fahad. "Critical review of COVID-2019 in Pakistan and its impact on Pakistan economy." *Available at SSRN 3629718* (2020).
11. Ahmad, Junaid, Mokbol Morshed Ahmad, Haleema Sadia, and Anees Ahmad. "Using selected global health indicators to assess public health status of population displaced by natural and man-made disasters." *International journal of disaster risk reduction* 22 (2017): 228-237.
12. Jamil, Saira. "Serological, Molecular Identification of Cytomegalo, Herpes Simplex Viruses And Phylogenetic Analysis of Hsv1-Tk And Hsv-2-gD Gene in Pregnant Women in Peshawar, Pakistan." PhD diss., university of Peshawar, Peshawar, 2019.
13. Osman, Fatma, A. Kandi, S. Elrefaey, S. Elshourbagy, H. Abuelsoud, M. Taha, and A. Gehad. "Enforcement of Functionality and Effectiveness of Event-Based Surveillance System (EBS), Egypt, April-September 2017." *Iproceedings* 4, no. 1 (2018): e10609.
14. Mir, Ali M., Saleem Shaikh, Mumraiz Khan, Irfan Masood, Mansoor Qaisar, Sabahat Hussain, and Rehan M. Niazi. "Using the community informant-based (MADE-IN and MADE-FOR) methodology to estimate the neonatal mortality rate (NMR) in Nowshera, Khyber Pakhtunkhwa: A feasibility study." (2016).
15. Arshad, Mateen. "Correlation between Toxoplasmosis and some Endocrine Parameters for the Assessment of Immunopathogenic Mechanisms of Human Population." PhD diss., Lahore College for Women University, Lahore., 2018.