

ORIGINAL ARTICLE

Clinical Presentation of Measles at the Pediatric Ward in Dr. Pirngadi Hospital Medan

by

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Abstract

A descriptive study was done on 55 infants and children with measles during January 1988 - December 1989. They comprised 1.08% of the total sum of 5075 children hospitalized during that period.

Measles without any complication was found in 5.4% of the subjects, and bronchopneumonia was the most common complication (75%). The highest prevalence was found in the age group of 1-5 years (72.8%).

Most of the cases (98.2%) suffered from mild to severe malnutrition and they had not previously been vaccinated against measles.

Introduction

Measles is an acute but self limited infection. In developing countries, with unfavorable environmental conditions, sanitation, and overwhelming malnutrition, parasitic and some other infection commonly accompany the disease. This condition could worsen the clinical course and thus increase its mortality.

Age distribution of the disease differ from one to another geographical area, depending on the population, culture and people's behavior. In general, there is a high transmission in the urban area with its crowded population, creating a continuous transmission in children of 1-2 years old.

There are variation of CFR in several hospitals in Indonesia, as seen in Table I.

Table I shows that the CFR of measles with complicatin in our department was rather high, ranging from 17.9 - 26.1%. Generally there was a delay in hospitalization and the patients had severe complication such as malnutrition, bronchopneumonia, diarrhea with dehydration and encephalitis.

The purpose of this study is to evaluate the clinical presentation and mortality of measles in hospitalized patients at the pediatric ward of Dr. Pirngadi Hospital Medan, in the period of 1988 - 1989.

Materials and methods

All measles patients with or without complication at the pediatric ward of Dr. Pirngadi hospital during January 1988 - December 1989 were included in this retrospective study.

The clinical data was collected and tabulated based on age group, sex, ac-

companying disease, symptoms, and the outcome of the disease.

Nutritional status according to Gomez Classification depends on body weight for age. There were three catagories, mild (90-75%), moderate (74-60%) and severe malnutrition (<60%).

Table I. *Case fatality rate of measles with complication in several hospitals in Indonesia*

CITY	HOSPITAL	CFR(%)	Sources
Medan	1973-1977 Dr. Pirngadi	26.1	Rangkuti et al 1980 [10]
Surabaya	1974-1976 Dr. Sutomo	23.3	Suprapti 1979*
Jakarta	1977-1979 Dr. Cipto Mangunkusumo	16.0	Abdurrachman et al 1981 [11]
Manado	1979-1981 Gunung Wenang	13.0	Munir et al 1982 [1]
Medan	1982-1985 Dr. Pirngadi	22.9	Lubis et al 1987 [12]
Medan	1985-1986 Dr. Pirngadi	17.9	Lubis et al 1989 [13]
Medan	1987 Dr. Pirngadi	24.8	Pasaribu et al 1988 [6]
Jakarta	1985-1986 Dr. Cipto Mangunkusumo	10.8	Sri Rezeki 1988 [2]

* Adapted from Sri Rezeki [2]

Results and Discussion

From January 1988 to December 1989, there were 5075 patients admitted to Pediatric ward of Dr. Pirngadi hospital, Medan, and 55 (1.08%) had measles with or without complication.

Table II shows that the highest percentage of measles cases was found in the age group of 1-5 years, which was

Table II. *Age and sex distribution of measles cases*

Age (years)	Sex		N of Cases	%
	Male	Female		
< 1	9	2	11	20.0
1- 5	16	24	40	72.8
> 5	3	1	4	7.2
Total	28 (50.9%)	27 (49.1%)	55	100.0

Table III. *Nutritional status by age group*

Age (years)	Nutritional status				Total
	wellnourished	malnutrition			
		mild	moderate	severe	
< 1	-	6	4	1	11
1 - 5	1	6	23	10	40
> 5	-	-	3	1	4
Total (%)	1 (1.8)	12 (21.8)	30 (54.6)	12 (21.8)	55

similar with that found by Munir et al, Sri Rezeki, Rita, and Lubis [1,2,3,4].

Fifty four out of 55 measles cases had mild, moderate or severe malnutrition namely in 21.8%; 54.6% and 21.8% respectively, the highest being moderate malnutrition.

Table IV. *Complications and accompanying diseases by age group*

Complications and accompanying diseases	Age (years)			Total (N=52)	%
	< 1	1-5	>5		
1. Bronchopneumonia	10	26	3	39	75.0
2. Moderate malnutrition	4	23	3	30	57.7
3. Mild malnutrition	6	6	-	12	23.1
4. Severe malnutrition	1	10	1	12	23.1
5. Gastroenteritis	3	7	-	10	19.2
6. OMP	2	3	2	7	13.5
7. Encephalitis	-	2	-	2	3.9
8. Bronchitis	-	1	-	1	1.9
9. Pneumomediastinum	-	1	-	1	1.9
10. Croup	-	1	-	1	1.9
11. Faucial diphtheria	-	1	-	1	1.9

Table V. *Several symptoms encountered in measles cases*

Symptoms	Frequency (N=55)	%
1. Fever	44	80.0
2. Cough	41	74.5
3. Dyspnea	29	52.7
4. Diarrhea	15	27.3
5. Convulsion	9	16.3
6. Rash	8	14.5
7. OMP	7	12.7
8. Vomiting	4	7.1
9. Epistaxis	1	1.8

From this study we found that 52 (94.6%) of 55 measles cases had several complications. Bronchopneumonia was the most common complication and diarrhea was found in 19.2%. Marbun et al [5] and Pasaribu et al [6] found measles with diarrhea 44.6% and 31.8% re-

spectively.

The present study demonstrated that the symptoms mostly seen were fever (80%), cough (74.5%) and dyspnea (52.7%), while Rita [3] in her field study found that fever, rash and coughing were the common symptoms of measles.

Table VI. Outcome according to duration of illness at home

Duration of illness (days)	Number (N)	Outcome			
		Survived		Died	
		N	%	N	%
7	13	12	93.3	1	(7.7)
>7	42	35	83.3	7	(16.7)
Total (%)	55	47	(85.5)	8	(14.6)

Table VII. Morbidity and mortality by age group

Age (years)	Population	N of Cases	Death	Attack rate (%)
< 1	2050	11	3	0.5
1 - 5	1805	40	5	2.2
> 5	1220	4	-	0.3
Total	5075	55	8(14.6%)	1.08

Table VIII. Distribution of patients, deaths and CFR according to nutritional status

Nutritional status	Patients (N=55)	Death	CFR (%)	Death proportion (%)
Wellnourished	1	-	0.0	0.0
Mild malnutrition	12	2	16.7	25.0
Moderate malnutrition	30	3	10.0	37.0
Severe malnutrition	12	3	25.0	37.5
Total	55	8	14.6	100.0

Table VI shows that the patients who were still not hospitalized more than 7 days after affected by measles had a greater risk to die (16.7%).

The highest age specific attack rate

was in the 1-5 years age group (2.2%). CFR was 14.6% similar to the result of a study by Sri Rezeki [2], who reported the CFR in several hospitals in Indonesia ranging between 10-20%.

Generally, the death cases in our study were measles with malnutrition. The highest mortality was in severe malnutrition cases (25%). The highest death proportion was in mild and moderate malnutrition, as high as 62.0%, similar with the result reported by Direktorat EPIM Dit. Jen PPM & PLP [7].

Loss of appetite, high fever and diarrhea can cause acute malnutrition, and in contrast children with malnutrition, diar-

rhea could still remain until several weeks [8].

Morley in a study in Nigeria found that the body weight of measles cases might decrease by 10% and the mortality of measles patient with severe malnutrition 2.3 times higher than those with good nutrition [9].

In our study, no patient at all had received immunization against measles.

Conclusions

1. Generally, most of the patients was hospitalized with accompanying diseases.
2. The mortality rate in our department was still high.
3. None of the cases had been immunized against measles.

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