
ORIGINAL ARTICLE

Rabies in Children
(An Eleven Years Retrospective
Study in Medan)

by

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Abstract

At the Department of Child Health Medical School University of North Sumatera/Dr. Pirngadi Hospital Medan, a retrospective study for analysis on Rabies in Children from 1977 — 1980 had been carried out. We found 29 cases consisting of 23 males and 6 females. The highest incidence was between 6 — 12 years. All was bitten by dogs.

Lower limbs were the most common site of dog bite. Twenty of the 29 cases were derived from Medan Municipality. All of the cases did not received post-exposure immunization. People's alertness to dog control is still improperly practice and stray dogs are everywhere.

Introduction

Rabies is an acute viral disease of the central nervous system transmitted by dogs, cats, bats and wild animals. In general, it is characterized by extreme excitation, severe and painful spasm of the muscles of the pharynx and larynx

at the sight of food or liquids, which accounts for the name "Hydrophobia" and finally by generalized paralysis and death within a few days (Blattner, 1975).

Rabies is still endemic in the world, except some areas recognized as free of rabies (Anonymous, 1979) (Table 1).

TABLE 1: *Countries Reported to be Rabies free*

AMERICAS
Bermuda
CARIBBEAN
Anguilla, Antigua, Aruba, Bahamas, Barbados, Curacao, Guadeloupe, Jamaica, Martinique, Montserrat, Nevis, St. Kitts, St. Lucia, St. Martin, St. Vincent, Virgin Islands
EUROPE
Faroe Island, Finland, Iceland, Ireland, Norway, Sweden, United Kingdom
ASIA
Japan, Taiwan
OCEANIA
American Samoa, Australia, Fiji, Guam, New Zealand, Saipan

In Indonesia only 8 out of 27 Provinces are definable as free of rabies (Adhyatma, 1981). In Medan, the capital of North Sumatera Province, rabies is still endemic (Ramayati et al., 1981).

Nainggolan (1977), reported that in Medan from 39 animal's brain tissue 28 (71.8%) were positive for rabies by using fluorescent antibody Technique (Nainggolan, 1977).

Aware of this endemic state in Medan, we would like to know how many children had been admitted during 1970 — 1980 to the Department of Child Health Dr. Pirngadi Hospital Medan.

Material and Methods

Cases with suspected rabies from in-patient Department of Child Health, Medical School, University of North Sumatera/Dr. Pirngadi Hospital Medan during the period 1970 — 1980 were collected for analysis.

Diagnosis were based on :

- a. Anamnesis : animal bite, scratches or licks
- b. Appropriate incubation period
- c. Characteristic clinical manifestation such as :

1. Excitation increases rapidly and there is apprehension and even terror.
2. Strangling and painful spasm of the throat at any attempt to swallow food or liquids and even at the sight of them (Hydrophobia).
3. Other manifestation such as restlessness, exaltation, hypersalivation, anxiety, pain on bite-localization, fever, convulsion, muscular-ache, aerophobia and dehydration.

Result

During the period 1970 — 1980 we found 29 cases; 23 males (79.3%) 6 females with suspected-rabies. See table 2.

TABLE 2 : Age and sex distribution of cases with suspected-rabies

Year	Sex		Age (in years)			Total
	Male	Female	0 — 6	6 — 12	12 <	
1970	1	—	—	1	—	1
1971	—	—	—	—	—	—
1972	1	—	—	1	—	1
1973	3	3	—	5	1	6
1974	2	—	—	1	1	2
1975	3	—	—	3	—	3
1976	1	1	1	1	—	2
1977	2	—	1	—	1	2
1978	3	1	1	2	1	4
1979	1	1	—	1	1	2
1980	6	—	1	4	1	6
	23	6	4	19	6	29

The highest age incidence is 6 — 12 years namely 19 (65.5%) out of 29 cases. All cases were unprovoked-dog bites. The distribution of the bite-localization is given on table 3.

Most of the cases have an incubation period within 1-3 months, that is 22 (75.8%) out of 29 cases. The shortest incubation period was 3 weeks while the longest was 12 months.

TABLE 3: *Distribution of bite-localization and incubation period*

Bite-localization	Total	Incubation period in months			
		< 1	1—3	3—6	6—12
Head and Neck	2	—	2	—	—
T r u n k	5	1	3	1	—
Upper limbs	3	2	1	—	—
Lower limbs	19	—	16	2	1
	29	3	22	3	1

The domicile of the cases is given on table 4.

TABLE 4: *Distribution of domicile of the cases*

Area of domicile	Total
Medan Municipality	20
Deli Serdang district	5
Langkat district	2
Asahan district	1
South Tapanuli district	1
	29

From the analysis we found that all cases had not received post-exposure immunization.

The clinical manifestation on admission were shown on table 5.

All cases received supportive care and all died after 2-12 hours of hospitalization.

Discussion

In this retrospective study we found that from 1970 to 1980 every year there were still cases of suspected rabies among the children who were hospitali-

TABLE 5: *Clinical Manifestation during admission*

Clinical manifestation	T o t a l	%
Hydrophobia	29	100
Restlessness/exaltation/anxiety	17	58.6
Mild to moderate dehydration	16	55.2
Hypersalivation	14	48.3
Pain on bite-localization	10	34.5
F e v e r	9	31.0
Convulsion	9	31.0
Muscular-ache	6	20.7
Aerophobia	4	13.8

zed. The highest age incidence was 6-12 years.

The course was progressive and death occurs after 2-3 days of onset. Not one of these children had got post-exposure immunization.

Although rare instances of survival in suspected rabies have been reported, the disease is almost fatal (Fulginiti, 1980).

The clinical cases are usually characterized by 3 stages namely: prodromal phase, second phase and terminal phase (Blattner, 1975; Plotkin, 1979). In our cases the prodromal phase could not be detected on admission. All of them showed the second phase and died in terminal phase.

The prevention of rabies after exposure depends on 3 complementary procedures: local treatment, passive antibody administration and active immunization (post-exposure prophylaxis).

Treatment of clinical rabies with large dose of interferon and anti rabies serum

have been advocated but it is doubtful that these substances can affect rabies that has already spread to the brain.

Intensive supportive care may allow occasional patient to survive (Plotkin, 1979).

Before the second world war, dog control was properly practiced in Indonesia by the Dutch Government. On August 15, 1978 three Ministerial of the Republic of Indonesia (Ministry of Health, Ministry of Agriculture and Ministry of Home Affairs) established a regulation in increasing prevention and management of rabies in Indonesia (Tri-bowo, 1980).

Unfortunately people's alertness to dog control was still improperly practice and stray dogs are everywhere. If dog control were properly practiced, rabies could be suppressed in many countries of the world.

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