



# Progress Report of CONGENITAL SYPHILIS: From Skin to Liver

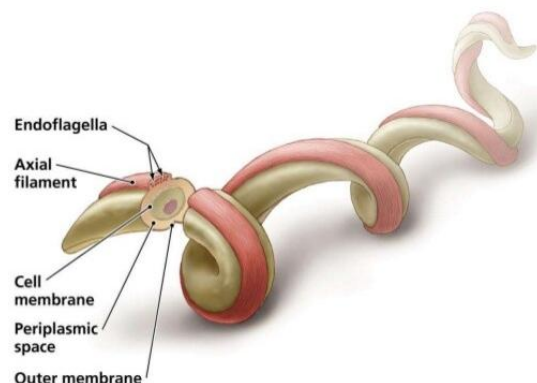
ប៊ុនសាក់វិសេត  
គាត់ម៉ែត  
HOPITAL  
Calmette

**BIN SAKVISETH, IM SETHIKAR, ET AL.**

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Treponema Pallidum



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February 21, 2025

# PLAN

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1. INTRODUCTION
2. SUCCESSFUL HISTORY IN NEONATAL ICU, CALMETTE HOSPITAL
3. RESULTS OF 3-YEAR RETROSPECTIVE STUDY
4. OUR NEW STUDIES
5. TAKE-HOME MESSAGES

# I-INTRODUCTION

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Transmission of the spirochetes *Treponema pallidum*/placenta to the fetus during pregnancy from infected mother: **untreated** or **inadequately treated**.

Untreated maternal syphilis is associated with several **adverse birth outcomes** (ABO):

- Fetal loss, stillbirth, neonatal death,
- Symptomatic infected newborns,
- Premature delivery and low-birth weight.

In South-East Asia, the rate of Congenital Syphilis was **145 per 100,000** live births in 2016 [1].

In Cambodia, the rate of Congenital Syphilis: **105** (2022) and **98** (2023) per 100,000 live births [2].

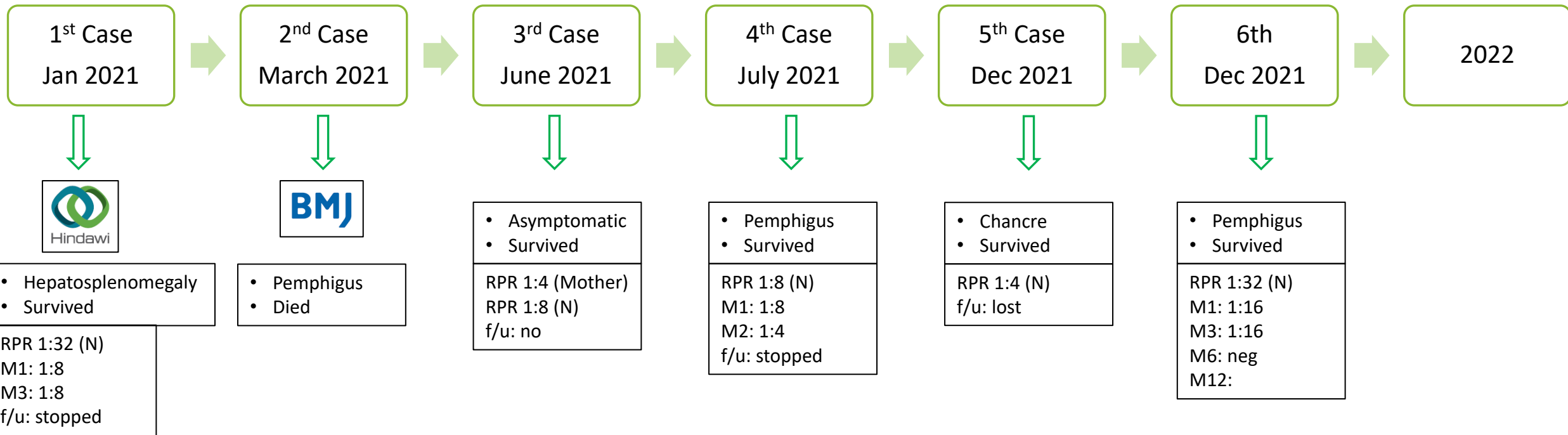
1. Korenromp et al, PLOS One, 2019.
2. NMCHC-WHO CS Tools.

## II- SUCCESSFUL HISTORY IN NEONATAL ICU, CALMETTE HOSPITAL

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# Calmette Hospital (2021-2022):

Where it started?  
How far we have done?



6 cases in 2021  
(0 case >10 years)

Congenital Syphilis (symptomatic) ⇔ Maternal Syphilis (unknown, untreated)

We start with the skin!

## Pemphigus Syphiliticus

A



Figure 1 Pemphigus syphiliticus.



B

C



Under Review



BMJ

Bin S. Congenital pemphigus syphiliticus: a characteristic feature of a forgotten disease.  
BMJ Case Reports. 2021 Oct 1;14(10).

NICU ↔ Maternity

Jan 2022



May 2022

June 2022

July 2022

August 2022

**Congenital Syphilis Guideline: Drafting**

Maternity:  
re-do syphilis test

**Case Definition: 9 cases**

- Scenario 1: 2
- Scenario 2: 6
- Scenario 3: 1

**Treatment:**

- Benzyl PNC
- 10 days
- Dilution and PIV 30mn

**Follow-up: RPR/TPHA**  
(scenario 1+2)  
M1-M3-M6-M12

**Congenital Syphilis Guideline: in use**



**Case Definition: 3 cases**

- Scenario 1: 2 (pemphigus)
- Scenario 2: 1

**Scenario 3: +++**

- PNC 1 dose
- f/u at M1

**Scenario 4: ++**

**February: 2 cases**

**1<sup>st</sup> case:** asymptomatic  
M: RRP 1:2/TPHA 1:640  
N: RRP 1:2/TPHA 1:640

**2<sup>nd</sup> case:** symptomatic  
M: RRP 1:32/TPHA 1:5120  
N: RRP 1:16/TPHA 1:640

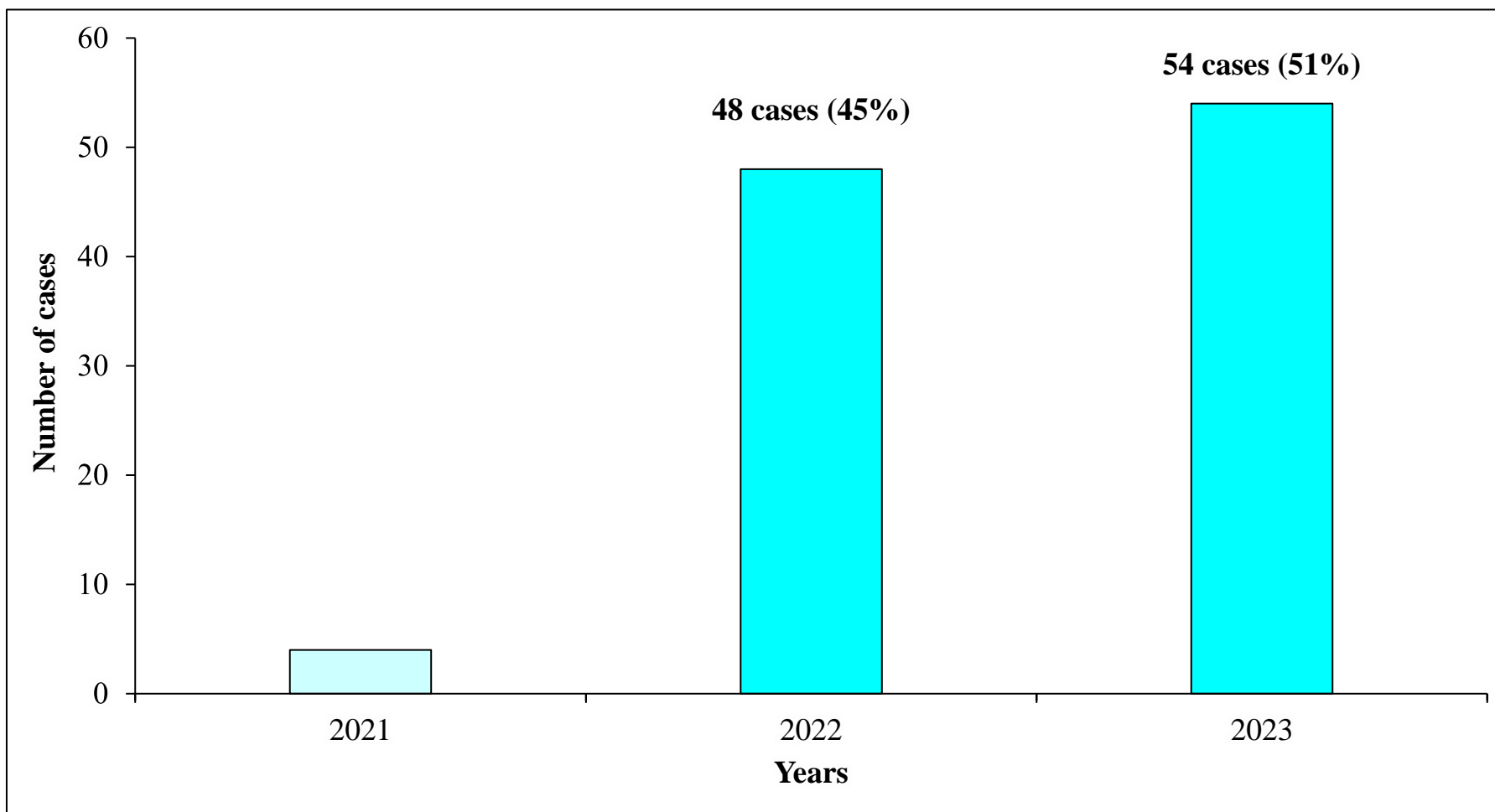
**March: 1 case, symptomatic**  
M: RRP 1:16/TPHA 1:640  
N: RRP 1:32/TPHA 1:1280

# III- RESULTS OF 3-YEAR RETROSPECTIVE STUDY

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# A RETROSPECTIVE OBSERVATIONAL MONO-CENTERED STUDY OF CONGENITAL SYPHILIS AT NICU OF CALMETTE HOSPITAL 2021-2023 (1)



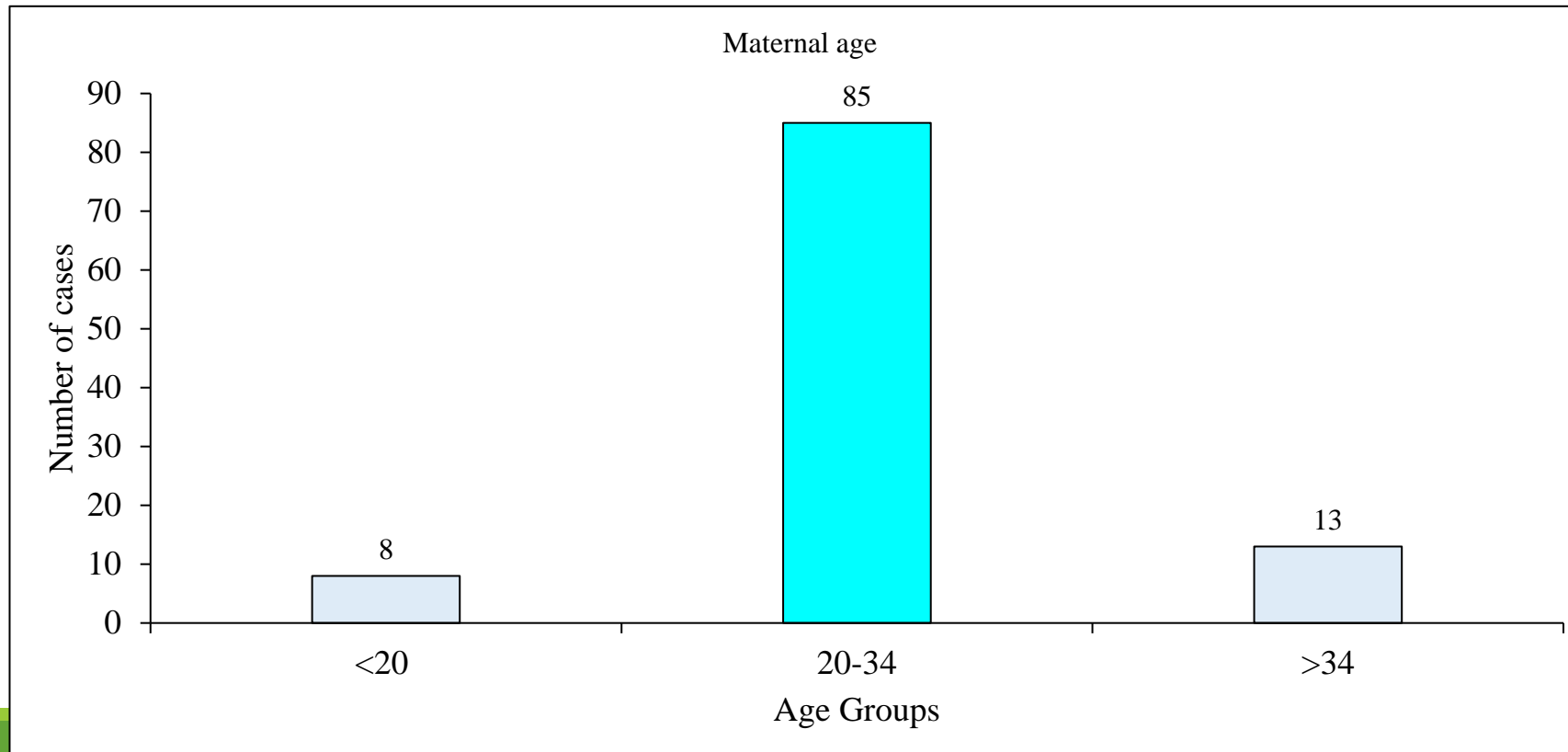
Thesis: DIN Vuthny (DES Pediatrics)  
Direct Supervisor: Dr BIN Sakviseth  
Thesis Director: HE Prof IM Sethikar

106 cases/3 years

# A RETROSPECTIVE OBSERVATIONAL MONO-CENTERED STUDY OF CONGENITAL SYPHILIS AT NICU OF CALMETTE HOSPITAL 2021-2023 (2)

The mean maternal age was 26 years ( $sd=5.5$ ), which ranged from 17 to 41 years old.

The peak incidence was in the 20-34 age group with 85 mothers (80%).



# A RETROSPECTIVE OBSERVATIONAL MONO-CENTERED STUDY OF CONGENITAL SYPHILIS AT NICU OF CALMETTE HOSPITAL 2021-2023 (3)

Non-treponemal tests (RPR) were controlled in 92 mothers. Out of which:

- 88 mothers were reactive (95.6%)
- 47 mothers had high titer RPR >1:8 (51%)



# A RETROSPECTIVE OBSERVATIONAL MONO-CENTERED STUDY OF CONGENITAL SYPHILIS AT NICU OF CALMETTE HOSPITAL 2021-2023 (4)

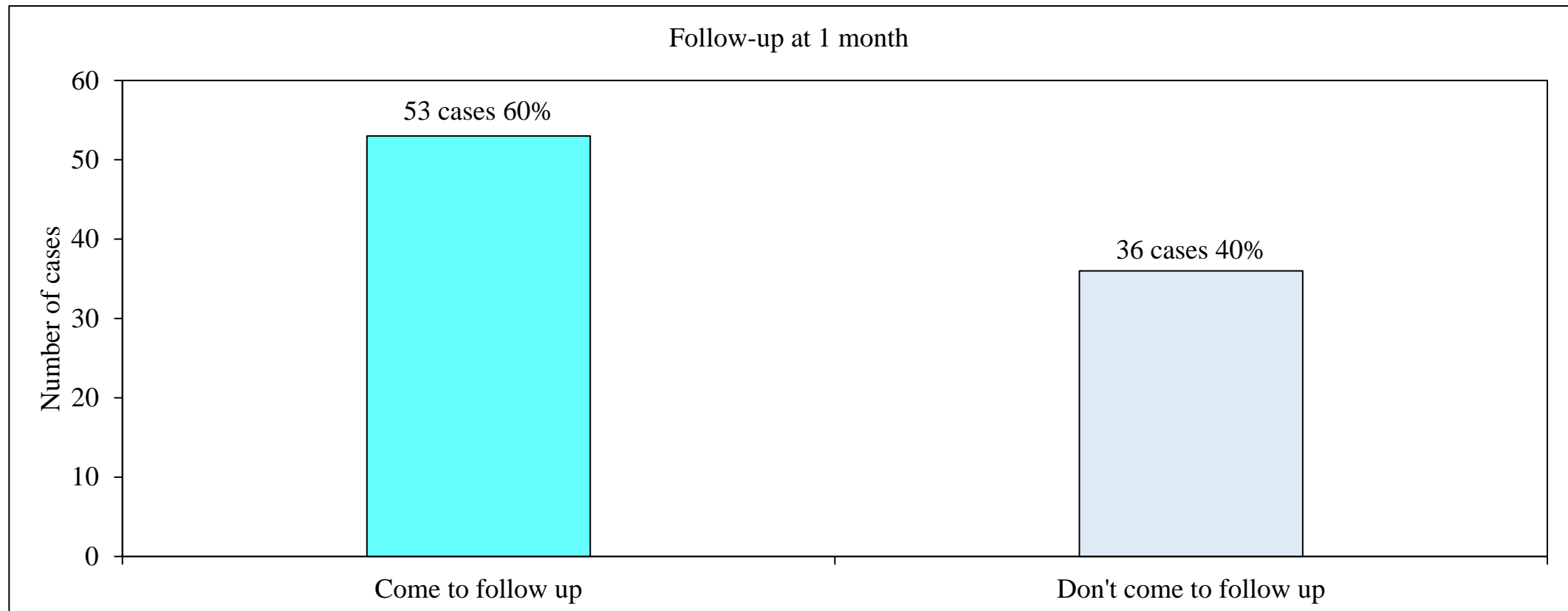
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Out of 106 neonates, 34 cases were **symptomatic (32%)**.

- Almost **70% were infected but no symptoms** ⇒ RPR of newborn and mother
- The mean WGA: 36 weeks [**29**-41 WGA].
- The mean BW: 2680g [**950**-3900 g].
- The mean of **PCT 3.78ng/ml** vs mean **CRP 73mg/L**.
- 2/106 neonates died of congenital syphilis ⇒ Mortality rate of **1.9%**

# A RETROSPECTIVE OBSERVATIONAL MONO-CENTERED STUDY OF CONGENITAL SYPHILIS AT NICU OF CALMETTE HOSPITAL 2021-2023 (5)

## Compliance Rate for the 1<sup>st</sup> follow-up



# IV-Our Current Situations/Challenges

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- Number cases increases: 85 cases in 2024 [raw data]
- We start with the skin and end up with the liver!
  1. 59 cases had abnormal liver functions (liver injury/hepatitis)!
  2. 17 cases had cholestasis!

[2021-2023]

Complications	Number of cases	Percentage
Meningitis	1	1%
Cholestasis	17	16%

# Our New Studies

12/9/24, 4:21 PM

#327: NEONATAL CHOLESTASIS DUE TO CONGENITAL SYPHILIS IN 17 NEONATES IN A TERTIARY NICU IN CAMBODIA...

Under Review

Abstract 327

**NEONATAL CHOLESTASIS** DUE TO CONGENITAL SYPHILIS IN 17 NEONATES IN A TERTIARY NICU IN CAMBODIA DURING 3 YEARS

Type: AS: Regular Abstracts

Topic: AS08. Infections in early life / AS08c. Other congenital and perinatal infections

Authors: Sakviseth BIN, Sethikar IM; Cambodia

## Background

Since 2021, there has been a significant resurgence of Congenital Syphilis (CS) in our NICU [1, 2]. Among 106 infected neonates, 16% developed cholestasis, characterized by direct hyperbilirubinemia.

Findings: **ALL cases**

- preterm
- symptomatic
- scenario 1



1/10/25, 7:37 PM

#582: SYPHILITIC HEPATITIS: A 3-YEAR RETROSPECTIVE STUDY IN A TERTIARY NICU IN CAMBODIA

Abstract 582

**SYPHILITIC HEPATITIS**: A 3-YEAR RETROSPECTIVE STUDY IN A TERTIARY NICU IN CAMBODIA

Type: AS: Regular Abstracts

Topic: AS08. Infections in early life / AS08c. Other congenital and perinatal infections

Authors: Sakviseth BIN, Sethikar IM; Cambodia

## Background

Congenital syphilis (CS) was first detected in our center in January [1]. By the end of 2023, we had treated 106 infected neonates, with a mortality rate of 1.9%. Unexpectedly, 59 cases had hepatic involvement, fitting the diagnosis of syphilitic hepatitis [2].

Under Review

43<sup>RD</sup> ANNUAL MEETING OF THE  
**EUROPEAN SOCIETY FOR  
PAEDIATRIC INFECTIOUS DISEASES**  
Organised jointly by ESPID and the ESPID Foundation

#ESPID2025  
espidmeeting.org

Findings: *risk factors for liver injuries*

- (p <0.05)
- scenario 1
- preterm
- LBW
- high CRP or PCT

# TAKE-HOME MESSAGES

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- Congenital syphilis is preventable.
- Yet the incidence is still high in our country.
- PNC G remains the most effective antibiotics.
- Follow-up plans are crucial to evaluate therapy effective.
- Liver functions (transaminase and bilirubin) should be closely monitored.

## THANK YOU FOR THE ATTENTION!