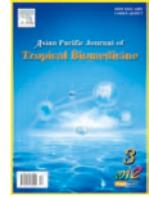


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## Varicella pneumonia: a summary of Thai cases

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## ABSTRACT

**Objective:** Varicella is an important viral infection. It can present with acute febrile illness with rash. In some case, the rare complication as varicella pneumonia can be seen. **Methods:** This work is a retrospective study. The meta-analysis of previously documented papers was done. **Results:** The clinical characteristics of documented Thai cases were summarized and presented. **Conclusions:** In this specific report, the authors summarize on the previous reports on varicella pneumonia from Thailand, a tropical country where high rate of varicella infection can be observed.

## 1. Introduction

Varicella is an important viral infection that is considered a highly contagious illness. The pathogen is the virus namely varicella zoster virus (VZV) [1–3]. Varicella is usually presented as an acute febrile illness with vesicular skin rash. The classical rash in varicella appears mainly on the body and head [1–3]. This infection can be self-limited and the skin lesion can completely heal without scarring [1–3]. However, in some cases, the complication of varicella can be observed. A rare complication is varicella pneumonia [4–6]. In this specific report, the authors summarize on the previous reports on varicella pneumonia from Thailand, a tropical country where high rate of varicella infection can be observed.

## 2. Materials and methods

This work was designed as a retrospective study. The authors performed literature searching on varicella pneumonia. The authors used the referencing databases, PubMed, SCOPUS as well as ThaiIndexMedicus for searching the previous publication in varicella pneumonia in Thailand. The searching key words included “varicella” and “pneumonia”. Only the derived reports on Thai patients

with varicella pneumonia were recruited for further data extraction. The summarization on clinical data from all included reports was done. The descriptive statistical analysis was performed where it was appropriate.

## 3. Results

According to this searching, there are 5 finally recruited reports [7–11] for analysis. There are at least 11 Thai patients presenting varicella pneumonia. All cases were previously healthy. The age of the patients ranges from 1 month to 50 years (mode = 1 month, 7 cases, data from 3 reports [7, 9–10]). Since there is no complete data on age and sex of the patients from all reports, hence, more in depth statistical analysis on these parameters cannot be done. Focusing on the source of varicella virus, 7 cases were proved getting virus from mother [9], 1 from the son [10], 1 from refugees in refugee camp [8] and the other left 2 cases with unknown data [7, 11]. Of 11 cases, there were only 2 deaths [7, 10]. Of all 11 pneumonia cases, respiratory distress syndrome can be seen in 3 cases [10, 11–12] and two of these 3 cases results in fatality [7, 10]. Focusing on treatment, the acyclovir therapy is used in all 11 cases and success treatment could be derived in 9 cases [8–11] with the longest period of treatment equal to 10 days in a case with respiratory distress syndrome [11].

## 4. Discussion

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Varicella pneumonia is an important uncommon complication in varicella. In the previous report, it is noted that pneumonia is more common in adults and is usually common in immunocompromised patients and in pregnant women [5]. However, in the present report, the findings are totally discordant. The Thai cases are not immunocompromised and most case reports are the neonatal group. However, this finding might not be conclusive and this trend might be due to the poor data publications in Thailand.

The clinical observations among Thai patients are similar to the previous reports around the world [5–7]. The respiratory distress syndrome is the totally unwanted superimposed condition that can lead to death. Indeed, the respiratory distress syndrome is usually concomitant with other organ failure and disseminated intravascular coagulopathy [12]. In the present study, those concomitant problems are also reported [7].

Focusing on treatment of varicella pneumonia, it is recommended that immunoglobulin should be used in treatment. However, the immunoglobulin is usually not available in Thailand. Hence, the acyclovir is used and it can also give the favorable therapeutic outcome.

There is another interesting observation that although the vaccination for varicella is available in Thailand for a decade, the recent report on the varicella pneumonia can still be seen. The case in the refugee camp is interesting [8] and this might imply the lack of good sanitation and preventive vaccination among the underprivileged population [7].

As already noted, due to the poor recording system in Thailand, there might be some under-reported cases. Also, there might be under diagnosis cases. Focusing on the reported cases, the poor quality of the report can be seen. Lack of many data in the recruited reports is the main problem in the present study. However, the authors tried the best to summarize the data as much as possible. Nevertheless, due to the availability of new varicella vaccine [13–17] and drug [18], the problem is expected to be decreased in the further.

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### Conflict of interest statement

We declare that we have no conflict of interest.

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