Leishmaniasis in Southeast Asia: the story of the emergence of an imported infection in a non-endemic area of the world

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ABSTRACT
Leishmaniasis is a recognized medical condition which, although uncommon, results in early patient mortality. It is however fortunate that such condition is treatable if detected early. Although this condition is mainly found in many Middle Eastern countries, other parts of the world may still be affected largely due to large population migration and ease of travel made possible by modern transportations. It is therefore of paramount importance that such a condition be recognized by health providers because early detection may help to prevent early fatality. In this article, a brief summary of leishmaniasis in Southeast Asia is discussed and how at one time, this condition which was thought to be irrelevant to this part of the world may again emerge as a common medical condition. The article aims to make the readers aware of the existence of this disease and that this disease should be considered as a probable diagnosis since its early identification can lead to better cure rates.

Keywords: bone marrow, leishmaniasis, Southeast Asia

Introduction
Leishmaniasis, a blood parasitic infection caused by the protozoa Leishmania spp. is a fairly common disease in many parts of the underdeveloped and developing countries that infects humans specifically and results in the clinical condition known as leishmaniasis. Leishmaniasis spp. is a Trypanosomatid protozoa and is transmitted through several identifiable vectors. These includes human vectors and animals; in particularly canines (1-3). Other vectors that are responsible for transmitting this disease, includes sandflies (genus Phlebotomus in the Old World and genus Lutzomyia in the New World) (1, 2). Leishmaniasis can be present in two main forms: cutaneous and visceral. The clinical signs and symptoms of leishmaniasis can appear within weeks to months after being inoculated with this parasite (1, 2).

Cutaneous leishmaniasis (CL) manifests as a painless and non-pruritus erythematous papule that further evolves into a plaque or ulcer (1, 2). Spontaneous healing within 2 months to 1 year is possible. However, this will leave scarring and pigmentation changes on the afflicted patients (1, 2). While the disease itself is not difficult to be identified, several differential diagnoses must also be considered since they may have overlapping signs and symptoms. This may include sporotrichosis, blastomycosis, yaw, tuberculosis, leprosy, cutaneous lymphoma, histoplasmosis and penicilliosos (1, 2). For treatment, oral miltefosine has been shown to be the new effective drug acting primarily against this parasite. The use of antibiotic can be applied in cases where secondary bacterial infection has occurred. While cutaneous leishmaniasis is not usually fatal, visceral leishmaniasis on the other hand can be more severe and results in patient mortality. Fever, weight loss, hepatosplenomegaly, pancytopenia and hypergammaglobulinemia are classical characteristics which by itself cannot be distinguished from many other infections (1, 2). Thus a high degree of suspicion of the presence of this disease must be made when such symptoms develop. More importantly, visceral leishmaniasis (VL) affects the liver, spleen and bone marrow and thus treating physician must be aware of its fatal consequences if such conditions are not recognised and treated early. In many cases, amphotericin B is effective in treating this condition although resistance to this drug has been previously demonstrated. In these cases, the use of miltefosine should be considered. However, in cases that involves the reticuloendothelial system (spleen and
liver), with or without bone marrow involvement such drugs may no longer be adequate. Patients will develop severe symptoms presenting with extensive hematological abnormalities. Fortunately, such entities represent only one-tenth of all visceral leishmaniasis cases thus sparing many patients from eventual mortality, although there is no specific treatment being mentioned in any known medical literatures. VL is endemic in the Middle East and South Asia and traditionally, this condition is confined within this region only. However, with the advances of modern transportation, this disease is no longer restricted in its ability to spread. This poses major concerns since this entity is unexpected in non-endemic countries; thus allowing VL to continue being undetected. Such disease becomes undertreated and is now allowed to spread within its new found population over time.

Another form of leishmaniasis, known as bone marrow leishmaniasis (BML), is more commonly seen in immunocompromised hosts. This form of leishmaniasis has become an issue today since the number of immunocompromised population has increased tremendously over recent years (3). Fortunately, although the disease can appear to be severe, it is treatable using existing drugs. BML is endemic in the Middle East but remain prevalent in South Asia and Mediterranean countries, which geographically are neighbouring states. As with any other infectious disease, its spread is no longer restricted thanks to the availability of modern travelling. Considering that leishmaniasis is no longer a disease of a specific region, the present article aims to highlight the pattern of spread of this emerging disease in Asia (Figure 1) and what can be expected in the near future. The realization of the existence of this disease is of importance since it is no longer considered exotic in areas which was once considered as safe heavens.

Leishmaniasis: Cases Reported in Southeast Asia

There have only been a few sporadic case reports of BML in Thailand (3-7). In all cases, disease is detected following a brief patient visit to the Middle East (4-9). Patients develop classical signs and symptoms of the disease which includes fever, weight loss and pancytopenia. The disease was initially diagnosed with difficulty as treating doctor were less receptive of such conditions in Asia. However, bone marrow aspirations following the investigation of unexplained pancytopenia provided undeniable diagnosis of this condition. Once confirmed, treatment was relatively easy with the use of pentavalent antimony compound therapy (1, 2). Ever since these cases were reported, there were no other reports of this disease in Thailand, owing to the decrease in labor emigration then.

Leishmaniasis is considered an important emerging infectious disease in Malaysia. Unlike its northern neighbor, new cases were not reported from its population but rather from their immigrant workers (10, 11). For example, the first case report was of a man from Bangladesh who worked in Malaysia as a laborer (10). A case of VL was also reported in remote areas of Malaysia where immigrant workers have been eluding public authorities for some time. It has been reported that several local people were infected from these workers. The sand-fly, genus Phlebotomus could have played a role in this disease transmission but needed to be further investigated as there is no clear evidence that this appears to be the case. Singapore, like Malaysia also reported several cases of VL affecting their migrant workers (13-15). What may be of interest is the fact that their local population are not spared, and vectors that are traditionally know to contribute to the transmission of this disease has never been identified. There have been reports that Singaporean visiting countries in the Middle East have returned to their home country with leishmaniasis (16).

Reports of leishmaniasis from other Southeast Asian countries is somewhat under reported, mainly due to the unavailability of a system of reporting. This is unfortunate since countries such as Myanmar would have had greater exposure owing to their close proximity to endemic countries. The only countries that has reported VL and BML appear to come from Vietnam (17); which in our opinion is also under reported.

Discussion

Leishmaniasis should be considered a new emerging infective disease that must be given due attention in Southeast Asia (Figure 2) as the number reported appear to be increasing (Table 1). The main factor leading to the rise in the transmission of this disease is the increased rate of travelling of people to the endemic countries and the migration of immigrants from the endemic areas. Most cases are imported cases confirming the nature of this
imported infection in travel medicine aspect in Southeast Asia. Because of its source of origin appears similar to that of the case observed in endemic areas where the disease originates, signs and symptoms reported previously should be applicable to that observed in non-endemic areas. To date, there is still no report of continuous transmission of disease from imported index case to the others and what is more is that there is still no confirmation on the possibility of local vector responsible for the transmission of this disease (15). It is however apparent that due to globalization, physicians in the Southeast Asia region should pay special attention to the possibility of the presence of this disease. Of interest, despite the emergence of this disease, there are still no specific public health policies and practices to deal with this new threat, which in this author’s view is indeed very worrying. Local authorities should be made aware of these diseases and make the necessary provisions to ensure that this disease do not become so wide spread that non-endemic countries will now have to combat this disease in a nationwide scale.

Table 1: A summary of reported cases of bone marrow leishmaniasis in Southeast Asian countries.

<table>
<thead>
<tr>
<th>Countries</th>
<th>Reported cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brunei</td>
<td>No report</td>
</tr>
<tr>
<td>Cambodia</td>
<td>No report</td>
</tr>
<tr>
<td>East Timor</td>
<td>No report</td>
</tr>
<tr>
<td>Indonesia</td>
<td>No report</td>
</tr>
<tr>
<td>Laos</td>
<td>No report</td>
</tr>
<tr>
<td>Malaysia</td>
<td>There are some reports in immigrants from the endemic area.</td>
</tr>
<tr>
<td>Myanmar</td>
<td>No report</td>
</tr>
<tr>
<td>Philippines</td>
<td>No report</td>
</tr>
<tr>
<td>Singapore</td>
<td>There are some reports in immigrants from endemic area and Singaporean travelers who visited the endemic countries.</td>
</tr>
<tr>
<td>Thailand</td>
<td>There are about 20 case reports in returning Thai workers who had history of labor works in the Middle East. The diagnosis was usually late due to lack of concern of this new emerging disease.</td>
</tr>
<tr>
<td>Vietnam</td>
<td>The new emerging case was reported and became the topic for further study on transmission of disease in this region.</td>
</tr>
</tbody>
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Figure 2: Map of Southeast Asia with corresponding situation of imported cases of bone marrow leishmaniasis

References


