

"Thigh Lesion ...in a Thai Farmer"

A disease simulation using GIDEON's diagnosis module.

A 45 year old Thai farmer develops severe pain and swelling of the right leg. Symptoms began several weeks after he had begun work to clear out swampy undergrowth next to his village. The entire right leg is cold and swollen, and an ulcer is present on the inner aspect of the thigh. What is your diagnosis?

Clinical findings were entered into GIDEON:

Clinical Summary
<ul style="list-style-type: none"> + The patient is an adult + Severe (hospitalized, hemorrhagic fever, fatal, etc) - GI and intraabdominal - disease or dysfunction - Pulmonary, thoracic, chest wall or cardiac + Rash limited to lower extremity(ies) - Macules and/or papules + Edema + Chancre, ulcer or wound + Subcutaneous or soft tissue lesion(s) or abscess + Myalgia; or muscular mass or swelling + Marine or aquatic contact <p>Country of disease acquisition: Thailand</p>

... and the diagnosis result was:

GIDEON Diagnosis Results	
Based on the clinical findings you entered, here is GIDEON's diagnosis:	
Compare	Why Not
Disease	Probability
<input type="checkbox"/> Pythiosis	99.8%
<input type="checkbox"/> Aeromonas & marine Vibrio infx.	< 1%
Total: 2 listed	
indicates note exists for Thailand	

Have you ever heard of Pythiosis?

GIDEON's epidemiology module notes the following:

General	Distribution	Synonyms	Clinical
<p>Agent: A FUNGUS-LIKE PROCTIST. Oomycota, Peronosporales: Pythium insidiosum</p>			
<p>Reservoir: Horse Cattle Dog Cat Human Aquatic plants</p>			
<p>Vector: None</p>			
<p>Vehicle: Direct inoculation Trauma</p>			
<p>Incubation Period: Unknown</p>			
<p>Diagnostic Tests: Biopsy, Culture in fungal media. Nucleic acid amplification.</p>			
<p>Typical Adult Therapy: Excision. Amphotericin has been used, but not proven. Immune therapy (injection of Pythium antigens) has been successful in animal models.</p>			
<p>Typical Pediatric Therapy: As for adult</p>			
<p>Clinical Hints Gradual onset of soft tissue infection and arterial necrosis or obstruction, usually in the lower extremities in tropical or semitropical climate; rarely destructive keratitis. Most common in patients with thalassemia or aplastic anemia.</p>			

Pythiosis is just one of the 338 diseases covered in GIDEON – many of which have been described in only a handful of patients, or in a single country!

The following text is from the Pythiosis note in <Worldwide>:

Human pythiosis was first reported in Thailand, in 1987. The disease is reported primarily in tropical and subtropical regions. The etiologic agent is *Pythium insidiosum*, a fungus-like, aquatic organism found in animals and water plants. Natural infection of dogs, cats, cattle, horses and other mammals has been described in the United States, Thailand, Australia, Japan, Brazil, Colombia and Costa Rica.

Thirty-two cases of human infection had been published as of 2002, 25 of these in Thailand - over 90% of these farmers. Additional cases were reported in the United States and Brazil. Approximately 50% of published cases were classified as arterial, 25% ocular, and the remainder cardiopulmonary or cutaneous. Pythiosis is usually characterized by erosive and occlusive disease of major arteries, with occasional systemic spread. Severe keratitis progressing to endophthalmitis is also reported. Patients with arterial pythiosis usually have underlying hematologic disorders such as thalassemia, aplastic anemia or paroxysmal nocturnal hemoglobinuria.

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