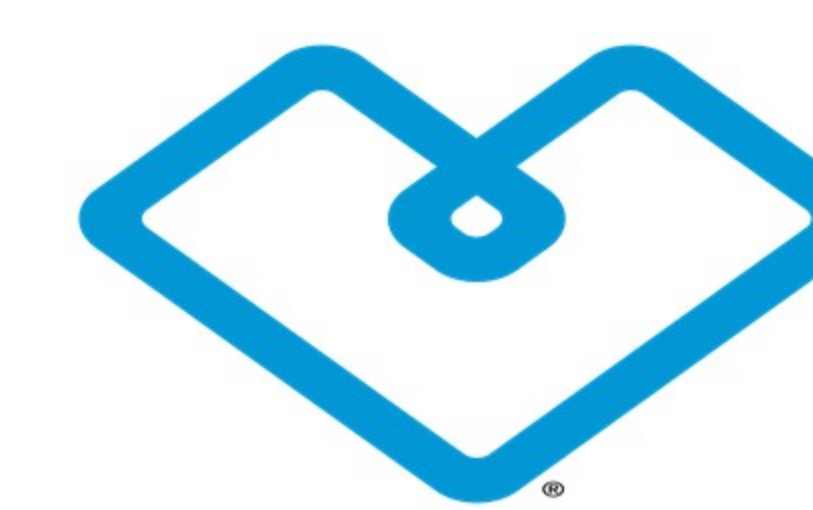




# Blame it on the Hymenoptera: An INTERESTING case of Guillain Barre Syndrome

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## Introduction

Guillain-Barré syndrome (GBS) is a rare and serious autoimmune disorder that affects the peripheral nervous system, leading to muscle weakness, numbness, and tingling sensations. It is caused by an immune system attack on the nerves' protective covering (myelin sheath) and can also damage the nerves themselves. The exact cause of GBS is not yet fully understood, but it often follows a bacterial or viral infection, surgery, or vaccination. In rare cases, GBS may also occur after exposure to certain chemicals or insect stings<sup>1</sup>. Stings from the Hymenoptera group of insects have been linked to several neurological conditions, including acute ascending demyelinating neuropathy. However, the exact incidence of this association is not well established. Affected patients may experience symptoms like those seen in individuals who have recently had respiratory or gastrointestinal infections. GBS typically reaches its peak within two weeks of onset and then gradually subsides within four weeks. In this case, the patient initially complained of abdominal discomfort before experiencing any neurological symptoms, but ultimately developed GBS following a Hymenoptera sting.

## Case Description

A 70-year-old female who presented to the emergency department with abdominal pain following a wasp sting. She was subsequently diagnosed with diverticulitis and admitted for supportive care and antibiotic treatment. However, she later developed bilateral lower extremity weakness and loss of coordination and was diagnosed with Guillain-Barré syndrome (GBS). On physical exam, she exhibited 5 out of 5 muscle strengths in the lower extremities with normal tone but was minimally able to move her legs in a coordinated fashion with associated sensory ataxia, loss of proprioception, and diminished reflexes. Upper extremity and hand intrinsic muscles were 3 to 4 out of 5 bilaterally, except for diminished grip strength in bilateral hands due to carpal tunnel syndrome. There was mild ataxia with finger-to-nose testing. Pertinent initial laboratory findings included an elevated erythrocyte sedimentation rate of 47, creatine kinase of 271, and C-reactive protein of 1.02. Cerebrospinal fluid analysis showed a clear appearance, negative for xanthochromia, increased protein of 79.4 mg/dl, glucose of 69 mg/dl, and 95% elevated lymphocytes. The patient received intravenous immunoglobulin therapy and was eventually discharged with continued rehabilitation therapy.

## Figures and Labs



Figure 1: The patient's left thigh swelling and redness at the sting site on the lateral aspect of the mid and distal thigh.

TSH: 1.170 <b>CRP 1.02 H</b> Vitamin B1: 124.1 Copper: 110 Vitamin E: 10.1 <b>Creatinine Kinase: 271</b> <b>Sedimentation rate: 47</b>	Anti-jo-1 <0.2 <b>Immunoglobulin G, Serum: 3312</b> Immunoglobulin A, Serum: 312 Immunoglobulin M, Serum: 139	Protein Total Serum: 7.1 Albumin: 3.2 Alpha-1-Globulin: 0.3 Alpha-2-Globulin: 0.9 Beta Globulin: 1.1 Gamma Globulin: 1.6 M-Spike: Not Observed Globulin, Total: 3.9 A/G Ratio: 0.8
<b>CSF Fluid:</b> GRAM STAIN: No organisms seen GRAM STAIN: Moderate WBC's CULTURE RESULT: No growth aerobically or anaerobically. <b>Protein CSF: 79.4</b> Glucose CSF: 69 Fluid Color: Colorless Fluid Appearance: Clear White Blood Cells, Fluid: 10 cells/uL Red Blood Cell, Fluid: 2 cells/uL Neutrophils, Fluid: 0% Lymphocytes, Fluid: 92% Monocytes, Fluid: 6% Eosinophils, Fluid: 2%	<b>CSF Fluid:</b> Cryptococcus neoformans/Gattai: Not Detected Cytomegalovirus: Negative Enterovirus: Negative Escherichia coli K1: Negative Haemophilus Influenzae: Negative Herpes simplex virus 1: Negative Herpes simplex virus 2: Negative Human herpesvirus 6: Negative Human parechovirus: Negative Listeria monocytogenes: Negative Neisseria meningitidis: Negative Streptococcus agalactiae: Negative Streptococcus pneumoniae: Negative Varicella zoster virus: Negative VDR, CSF, non-reactive. West Nile Virus, IgG: negative. West Nile Virus, IgM: negative.	

Table 1: Patient's laboratory results. Red indicates abnormal values.

## Discussion/Conclusion

In conclusion, Guillain-Barré syndrome (GBS) is a rare autoimmune disorder that affects the peripheral nervous system, leading to muscle weakness, numbness, and tingling sensations.

The exact cause of GBS is not yet fully understood, but it often follows a bacterial or viral infection, surgery, or vaccination, and, in rare cases, after exposure to certain chemicals or insect bites.

This case highlights the association between Hymenoptera stings and neurological conditions such as GBS<sup>2</sup> and the importance of recognizing the symptoms of GBS early to initiate appropriate treatment. More research is needed to fully understand GBS's underlying mechanisms and potential links to insect bites<sup>3</sup>.

## References

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