



## PIC QUESTION OF THE WEEK: 10/05/09

Q: What is the risk of Guillain-Barré syndrome after administration of vaccines?

A: Guillain-Barré (gē-yān' bā-rā') syndrome (GBS), also known as acute idiopathic polyneuritis or acute inflammatory polyneuropathy, is an autoimmune disorder associated with demyelination of neurons in the peripheral nervous system. It initially appears as numbness or weakness in the extremities, but can be progressive and result in total body paralysis and respiratory failure. The disease occurs in approximately 1-2 people per 100,000, is slightly more prevalent in men than women, and increases with age. The majority of cases are attributable to *Campylobacter jejuni*, an infectious cause of gastroenteritis. Other infectious diseases, malignancies, diabetes, surgery, medications, and various vaccines have also been considered as etiologies of GBS. After symptom onset, paralysis can develop rapidly over a period of days to weeks and subsequently reaches a plateau. After the plateau phase, gradual recovery begins and may continue for a period of weeks to months. In addition to paralysis and symmetrical muscle weakness, patients may also present with paresthesias, bradycardia, and hypotension. GBS is generally self-limiting, but approximately 10% of patients experience long-term disability, pain, or sensory-motor impairment. Treatment options consist of corticosteroids, IVIG, and possibly plasma exchange. GBS has again become noteworthy because of the current need to immunize against the novel H1N1 influenza virus. Although GBS is considered a possible adverse consequence of vaccine administration, the only vaccine for which a causal relationship has been established is the *swine flu vaccine* of 1976. The causal relationship of earlier cases implicating older vaccines for rabies, oral polio, meningitis, and tetanus has been questioned. The CDC, however, still warns against the use of meningococcal vaccine in patients with a history of GBS. The agency expects that the upcoming influenza A (H1N1) monovalent vaccine will have a similar safety profile to the seasonal influenza vaccine with respect to GBS. The current CDC guideline on seasonal influenza vaccine advises that the frequency of GBS after influenza *infection* is approximately 4-7 times greater than that observed after use of influenza *vaccine*. It does caution that GBS secondary to vaccine administration is more likely in persons with a history of the disorder. At this time, the benefits from administration of any vaccine appear to greatly exceed the risk of GBS.

### References:

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