The Neuroscience Journal introduces this new section on multiple choice questions as part of its commitment to continuous education and learning in Neurosciences. Experts in various neuroscience specialties are invited to participate with their knowledge and expertise in this section.

Neurology, neurosurgery, and other board residents are encouraged to read this section to improve their knowledge and direct their reading for written examinations.

Guillain-Barré syndrome in children

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Choose the most appropriate single answer.

1. The most commonly identified trigger for Guillain-Barré syndrome in children is:
   a. Epstein-Barr virus
   b. *Campylobacter jejuni* infection
   c. Immunization
   d. Influenza A (H1N1) virus
   e. Minor surgery

2. The probable pathophysiology of injury to the peripheral nervous system in Guillain-Barré syndrome is:
   a. Immune-mediated mechanism
   b. Metabolic
   c. Genetic
   d. Treatment related
   e. Traumatic

3. Which of the following statement about Guillain-Barré syndrome in children is correct:
   a. Is associated with symmetrical flaccid paralysis
   b. Progression of the disease for several weeks is common
   c. Sensory symptoms are absent
   d. Muscle tenderness excludes the diagnosis
   e. Involvement of the autonomic nervous system is absent

4. In the diagnosis of Guillain-Barré syndrome:
   a. CSF protein values are always elevated
   b. A finding of more than 50 cells/mm³ suggests other possible diagnosis
   c. Electrodiagnostic testing should be performed late in the disease
   d. Determination of serum electrolytes is usually helpful
   e. A nerve biopsy is required

5. The best treatment option for severe Guillain-Barré syndrome in children would be:
   a. Administration of high doses steroids
   b. Plasma exchange followed by steroids
   c. Intravenous immune globulin followed by plasma exchange
   d. Intravenous immune globulin or plasma exchange
   e. Supportive measures only
**Answers:**

1. **b**  
*Campylobacter jejuni* has been identified as the antecedent illness in up to 35% of children with Guillain-Barré syndrome.\(^1\) It appears more frequently in younger patients.

2. **a**  
Activated cellular and humoral immune mechanisms, induced by an antecedent, presumably viral infection, trigger inflammation, and demyelination. An underlying metabolic or genetic disease may predispose to Guillain-Barré syndrome in some cases.\(^2\)

3. **a**  
Typically, Guillain-Barré syndrome in children presents with pain in the back or limbs, and progressive symmetrical weakness, and areflexia. Maximum weakness is usually within 2 to 3 weeks of onset. Autonomic dysfunction is a well-recognized feature of Guillain-Barré syndrome and is a significant source of mortality.\(^2\)

4. **b**  
Diagnostic criteria for typical Guillain-Barré syndrome include fewer than 10 cells/mm\(^3\) in the CSF.\(^3\) The CSF cell counts greater than 50 suggest other possible diagnosis such as HIV, and cytomegalovirus infection, or transverse myelitis. The CSF protein levels can be normal in a minority of patients, particularly early in the disease. Up to 25% of patients may develop hyponatremia due to secretion of antidiuretic hormone. Electrodiagnostic testing should be performed early in the disease since it is critical to both make the diagnosis and suggest a prognosis.\(^3\)

5. **d**  
While acknowledging the limitations of data for children, the American Academy of Neurology and a recent Cochrane review concluded that intravenous immune globulin and plasma exchange are treatment options for children with severe Guillain-Barré syndrome.\(^4\) Intravenous immune globulin is preferred to plasma exchange in children because of the relative safety and ease of administration, although it has not been shown to have better results. Corticosteroids have not been shown to be beneficial.\(^5\) Monitoring and supportive care during the initial phase of Guillain-Barré syndrome is essential.

**References**