

Guidelines for the site of care for administration of IGIV therapy

Site of care - The decision to infuse IGIV in a hospital inpatient, hospital outpatient, community office, or home-based setting must be based upon clinical considerations. Failure to base this decision upon patient experience and circumstance, and choose the appropriate site of care could place a patient at risk.

Primary immunodeficiency (PI) disorders result from defects of the immune system that impair ability to fight infection. As a result, patients with PI get more frequent and severe infections in comparison to individuals with normal immune systems. Even if treated with appropriate medicines, these illnesses can damage organs, reduce quality of life, and lead to premature death. Fortunately, many infectious illnesses and complications can be prevented in patients with PI by the appropriate administration of IGIV.

IGIV is life saving and is indicated for a significant number of different PI disorders. Patients with PI appropriate for IGIV therapy should fit one of the following descriptions:

- 1) PI with absent B cells.
- 2) PI with hypogammaglobulinemia and absent specific antibody production..
- 3) PI with impaired specific antibody production regardless of serum IgG level. These specific indications for IGIV therapy are discussed further in a recent review of evidence entitled: "Use of IGIV in human disease", published as a supplement to the Journal of Allergy and Clinical Immunology (2006 - Volume 117, Pages S525-S553).

With respect to the site of care, there are several options for administering IGIV to patients with PI

The options available include:

- A) Hospital inpatient physician/nurse supervised infusion
- B) Hospital outpatient physician/nurse supervised infusion
- C) Physician office based physician/nurse supervised infusion
- D) Home based infusion with nurse supervision
- E) Home based infusion without nurse supervision

Since patients with PI are medically complex, all treatment related decisions must be individualized to maximize the health benefit and minimize the risk for each patient. However, some general guidelines can help guide treatment.

Guidelines for IGIV site of administration

1) All initial infusions of IGIV should be provided under physician supervision in a facility equipped to handle the most severe of acute medical complications.

Initial IGIV infusion can be complicated by adverse reactions. These range from mild to severe. The justification for providing initial IGIV infusions under physician supervision in an appropriate setting relates to the infrequent, but severe acute adverse events that can occur in the context of treatment. These include: thromboembolism, hypotension, seizures, aseptic meningitis syndrome, anaphylaxis, acute respiratory distress syndrome, pulmonary edema, apnea and transfusion associated lung injury. According to the 2002 patient survey of the Immune Deficiency Foundation (1170 patients surveyed) the majority of IGIV-related adverse

events occur during a first infusion or during a change from one IGIV product to another.¹ For this reason all such infusions should be performed under the highest level of supervision.

2) Changes of IGIV product should be provided under physician supervision in a facility equipped to handle the most severe of acute medical complications.

The rationale for this guideline is explained in guideline #1 above.

3) Certain patients continue to require higher levels of monitoring and intervention during IGIV infusions.

Some patients consistently have adverse events in response to infusions of IGIV. The 2002 Immune Deficiency Foundation patient survey found that 61% of patients had infusion rate related adverse events and 44% had one or more serious adverse events related to infusion.¹ These rates are higher than listed in the IGIV package inserts, but may represent real life experience. In general patients who experience adverse events should receive IGIV under direct supervision. If these adverse events are anything but mild, physician supervision should be available. The level of care required by these patients is high, as diagnostic acumen is required to distinguish mild as compared to moderate or severe adverse events. As some of the mild adverse events can mimic early signs of severe adverse events, particular care and caution in managing adverse events is essential. Once an adverse event is recognized, prompt action is indicated.

4) Patients who have tolerated IGIV therapy without a history of adverse events may be considered for lower levels of supervision during infusions.

According to IGIV package inserts and the 2002 Immune Deficiency Foundation patient survey¹ almost half of patients with PI diseases who receive IGIV do not experience adverse events. Thus, approximately half of patients with PI receive can potentially receive IGIV with less supervision following the initial infusion or first infusion of a new product.

5) Given the options for providing IGIV therapy, specific patient experiences mandate or preclude specific sites of care. These are as follows:

- A) Hospital inpatient physician/nurse supervised infusion . any patient with PI who requires chronic IGIV therapy and has had a severe IGIV adverse event for which the physician is uncomfortable administering IGIV in B or C. Alternatively, more intensive monitoring during infusion than can be provided in B or C may be required by these patients. Examples might include, but are not limited to anaphylaxis, seizure, thromboembolism, myocardial infarction, and renal failure.
- B) Hospital outpatient physician/nurse supervised infusion . any patient with PI who requires chronic IGIV therapy and has had an IGIV adverse event for which the physician is uncomfortable administering IGIV in C. Alternatively C may not be an available option for patients in the geographical region of the prescribing physician. In addition patients who are physically or cognitively disabled to the point where receiving treatment in C, D, or E would present a risk to their health.
- C) Physician office based physician/nurse supervised infusion . any patient with PI who requires chronic IGIV therapy and has had an IGIV adverse event that is not easily managed by mild premedication (analgesics or antihistamines). Alternatively D, or E may not be an available option for patients in the geographical region of the prescribing physician. In addition patients who are physically or cognitively disabled to the point where receiving treatment in D, or E would present a risk to their health.
- D) Home based infusion with nurse supervision . suitable for patients who are receiving a particular product without adverse events or mild adverse events that can be easily managed with mild premedication. Patients must also be physically and cognitively able to comply with the required treatment regimen and schedule.

¹ Immune Deficiency Foundation, 2002 patient survey:
<http://www.primaryimmune.org/pid/survey.htm>. Accessed April 8, 2006.

E) Home based infusion with supervision by another individual specifically trained in administration and management of complications . Suitable only for patients who do not experience adverse events related to IGIV infusions, have a high level of medical sophistication and have a committed partner to be trained and available during infusions to access help in the case of an adverse event. Candidates for this therapy and their infusion partner need to have undertaken specific training and have demonstrated competence in the practice of infusion.

Patients with PI may require frequent physician follow-up visits because of related complications of their disease, such as chronic bronchitis/bronchiectasis, inflammatory bowel disease, and others. They also need consistent monitoring by an appropriate specialist in PI diseases to insure appropriate management of the underlying disease and its complications. In some cases, travel times are such that considerable savings in time and costs can be achieved by having physician follow-up visits at the same time and place as IGIV infusions. This should also be considered in determining the best site of service

As hospital settings can be associated with a risk of exposure to patients with infectious conditions, the benefits of outpatient and home therapy should serve as a motivation to re-evaluate a patient and their suitability for a particular site of care.

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