**Acute Pancreatitis (AP)** is a common gastrointestinal disease that may result in multiple organ failure and death. It is characterized by inflammation of the pancreas, which can lead to complications such as pancreatitis and Diabetic Ketoacidosis (DKA). The relationship between AP, DKA, and HTG is complicated, making identification of the primary cause difficult. Treatment of DKA requires insulin to resolve ketosis. Strategies to manage acute HTGP include apheresis, heparin, and insulin. The most appropriate dosing of insulin for HTGP is not known, but starting at 0.1–0.3 units/kg/hr and titrating to TG level is reasonable. Use of continuous IV insulin, subcutaneous heparin, and apheresis resolved DKA and HTGP in our patient. It is unknown if continued use of a weight-based insulin regimen would have avoided the need for apheresis. The contribution of heparin to resolve HTGP is uncertain. With concurrent DKA and HTGP, IV insulin may be prematurely discontinued while TG are still critically high. Exercise caution when using insulin nomograms/protocols. Consider using a fixed, weight-based dose to avoid titrating off once ketosis resolves and blood glucose normalizes. It is reasonable to continue IV insulin until TG < 1000 mg/dL, but the most appropriate length of therapy is uncertain. Communication of goals of therapy is paramount to ensure insulin is continued until resolution of both DKA and HTGP.

### TABLE 1: Proposed treatments for acute HTGP

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Proposed Mechanism</th>
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<tbody>
<tr>
<td><strong>Insulin</strong></td>
<td>• Activates lipoprotein lipase (LPL) to accelerate lipolysis of chylomicrons</td>
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<tr>
<td><strong>Heparin</strong></td>
<td>• Stimulates release of endothelial LPL</td>
</tr>
<tr>
<td><strong>Apheresis</strong></td>
<td>• Eliminates TG and proteases</td>
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### Figure 1: Triglyceride metabolism

**Figure 2: Plasma TG and IV insulin administration rate over time**

**CONCLUSIONS**

- IV insulin appears to be safe and effective for HTGP with concurrent DKA, but establishing goals of therapy is essential.
- Use of apheresis results in immediate reduction in TG levels, but well-conducted trials are necessary to support this practice.

**REFERENCES & DISCLOSURES**


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