**Primary and Secondary Causes of Hypertriglyceridemia**

**Primary Causes**
- Familial combined hyperlipidemia
- Lipoprotein lipase deficiency
- Familial dysbetalipoproteinemia
- Apolipoprotein C-II deficiency
- Apolipoprotein C-III excess
- Familial chylomicronemia syndrome

**Secondary Causes**
- Untreated/poorly controlled diabetes mellitus
- Obesity
- High fat/high carbohydrate/high caloric diet
- Excessive alcohol consumption
- Hypothyroidism
- Nephrotic syndrome
- Pregnancy
- Medications (see table below)

**Common drugs/medications that can raise triglycerides**
- β-blockers
- Glucocorticoids
- Estrogens
- Progestins
- Tamoxifen
- Androgenic steroids
- Retinoids, isotretinoin
- Thiazide/thiazide-type diuretics

- Protease inhibitors
- Loop diuretics
- Tacrolimus
- Cyclosporine
- Atypical antipsychotics (e.g., clozapine, olanzapine)
- Valproate
- Alcohol

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**Consideration for Plasmapheresis if ACE-I Usage**

<table>
<thead>
<tr>
<th>ACE-I Usage</th>
<th>SIRS ≥ 2</th>
<th>SIRS = 0 or 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>No ACE-I taken in past 24 hours</td>
<td>Favors performing plasmapheresis</td>
<td>Consider plasmapheresis</td>
</tr>
<tr>
<td>ACE-I taken within past 24 hours*</td>
<td>Consider plasmapheresis with extra caution</td>
<td>Favors deferring plasmapheresis</td>
</tr>
</tbody>
</table>

* If plasmapheresis is performed within 24 hours of last ACE inhibitor dose, must be done in IMC or ICU setting only after multidisciplinary consultation and patient informed consent

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**Management of Very Severe Hypertriglyceridemia**

**Patient has Hypertriglyceridemia (TG ≥ 1000 mg/dL)**

- Evaluate for Primary and Secondary Causes
- Obtain Labs: Serum glucose, hemoglobin A1C, Creatinine, TSH, UA with protein/creatinine ratio

**Does patient have symptoms?** (i.e., abdominal pain, nausea/vomiting, vision changes, impaired cognition, paresthesias)

**Admit Patient and Treat**
- Address secondary causes
- Start fenofibrate (160 mg) or micronized fenofibrate (200 mg) daily
- Obtain diabetes management consultation if hyperglycemic
- Obtain nutrition consult for very-low-fat diet

**Does patient have pancreatitis?**

**Arrange Follow-up and Discharge Patient**
- Follow-up with PCP within 2 weeks
- Follow-up with Preventive Cardiology in 6 weeks

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