Hypoglycemia Panel (Sulfonylureas)

Indications for Ordering
Preferred test for evaluating if etiology of hypoglycemia is sulfonylurea ingestion

Test Description
Qualitative liquid chromatography/tandem mass spectrometry
- Detects
  - Glyburide
  - Glimepiride
  - Glipizide
  - Repaglinide
  - Nateglinide
  - Acetohexamide
  - Chlorpropamide
  - Tolazamide
  - Tolbutamide

Tests to Consider

Primary Test
Hypoglycemia Panel, Sulfonylureas Qualitative, Serum or Plasma 2010292

Related Tests
Evaluate if etiology of hypoglycemia is from exposure to sulfonylurea hypoglycemic drugs
- Serum or plasma is the preferred specimen for correlating drug use with hypoglycemia
- Metformin Quantitative, Serum or Plasma 0092390
- Sulfonylurea Hypoglycemia Panel, Quantitative, Urine 0091100
- Metformin Quantitation, Urine 2002928

Disease Overview

Clinical issues
- Sulfonylureas are commonly prescribed oral hypoglycemic agents used to treat type II diabetes mellitus
- Hypoglycemia may be rapidly occurring with agents such as glipizide if taken in large quantities
  - Symptoms may resemble other type of drug overdose, ethanol intoxication
- Small doses (eg, 2-5 mg) in children may cause significant and prolonged hypoglycemia
- Surreptitious use of sulfonylureas may also cause hypoglycemia
- Urine or plasma testing can identify sulfonylurea ingestion

Test Interpretation

Analytical sensitivity
- Limit of detection
  - Glyburide – 5 ng/mL
  - Glimepiride – 5 ng/mL
  - Glipizide – 5 ng/mL
  - Repaglinide – 5 ng/mL
  - Nateglinide – 5 ng/mL
  - Acetohexamide – 100 ng/mL
  - Chlorpropamide – 100 ng/mL
  - Tolazamide – 100 ng/mL
  - Tolbutamide – 100 ng/mL

Results
- Positive – detected above cutoff concentration
  - Indicates recent ingestion
- Negative – not detected

Limitations
Cutoff concentrations vary by drug