Implanted Intrathecal Pump With Low-Dose Bupivacaine for Treatment of Severe Intestinal Failure and TPN Dependence in a 3 year old Girl
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Introduction
Gastroparesis is a growing problem in pediatrics
Severe cases progress to enteral feeds; gastrostomy, jejunostomy and finally TPN (total parenteral nutrition)
TPN eventually leads to death, either from repeated line infections or liver failure.

We wish to present a case report of a 3 year old patient who was able to reverse her TPN dependence

Medications
PRE PUMP MEDICATIONS TRIED
GABAPENTIN
PREGABALIN
CLONIDINE
BACLOFEN
OXYCODONE
HYDROCODONE
METHADONE
DRONABINOL
ACETAMINOPHEN
DOCUSATE
RANITIDINE
MELATONIN
EPI PEN
SENNOSIDES
MIRALAX
PROMETHAZINE
ONDANSETRON
ALBUTEROL

POST PUMP MEDICATIONS
ALBUTEROL
EPI PEN
CLONIDINE
MIRALAX
MELATONIN

BUPIVACAINE IS AN OFF LABEL INTRATHECAL DRUG

CASE REPORT

• A three year old female with feeding issues since birth
• At four months, she was diagnosed with GERD and failure to thrive.
  • Subsequent development of gastroparesis, abdominal pain, multiple formula changes and numerous other medication trials to try to relieve her feeding and pain issues
• At age 7 months gastrostomy tube placement
• At 13 months gastro-jejunostomy tube for feeding placed. No improvement in growth, abdominal pain, nausea, diarrhea and bloating.
• Full evaluations completed at Children's Hospital Colorado and Cincinnati Children's Hospital.
• At 17 months of age, a TPN line was placed for nutrition. She had her first line infection one month later. Ongoing abdominal pain.
• Referral to the Pediatric Chronic Pain Service around 24 months
• After evaluation and several failed medication trials, a celiac plexus block was performed.
• She was able to resume gastro-jejunostomy feeds for 3 weeks
• Epidural trial completed, demonstrating improved formula tolerance.
• Therefore, an intrathecal pump was implanted and she has continued to feed normally through her gastro-jejunostomy tube.
• Her growth is now 50%ile and she is in an oral feeding program making good progress.

Conclusions
• Gastroparesis is a common problem in pediatrics that in severe cases may be life threatening
• Celiac plexus block may be helpful in determining if other interventions should be tried
• Intrathecal bupivacaine through an implanted pump can treat gastroparesis and remove the need for TPN
• Successful treatment may allow progression to an oral feeding program and more normal lifestyle