**NOTE 9**

**PATIENT 1001**

**Date: 5/30/22**

Date of Procedure:

5/25/22

Pre-Operative Diagnosis:

1. Intestinal perforation

Post-Operative Diagnosis:

1. Duodenal perforation

2. Malrotation (no volvulus)

3. Meckel's diverticulum

4. Formula peritonitis

Procedures Performed:

1. Exploratory laparotomy

2. Repair of duodenal perforation

3. Ladd's procedure (no appendectomy)

4. Right internal jugular nontunneled central venous line

Surgeon:

Michael Daniels

Assistants:

Dana Peterson

Anesthesia:

General Endotracheal

Estimated Blood Loss:

10 cc

Indications:

This is a 2-month-old, ex full-term infant, with a past medical history of Coffin-Siris syndrome, Dandy-Walker malformation and aortic coarctation status postrepair being evaluated for multifactorial respiratory failure and ongoing CPAP requirement. Over the last 12 hours, he had progressively worsening respiratory failure and abdominal distention. Abdominal x-ray and ultrasound were concerning for potential feeding tube perforation. He was taken to the operating room emergently with plan for exploratory laparotomy and repair of intestinal perforation. We discussed our suspicions with the family as well as our proposed treatment plan. We discussed the risks, benefits, and alternatives and family was amenable to proceed.

Details of Procedures and Findings:

The patient was brought to the operating room and general endotracheal anesthesia was initiated. They were then placed in Trendelenburg position with a shoulder roll and the right neck and chest were prepped and draped in the standard sterile fashion. A dose of appropriate perioperative antibiotics was administered. We then performed a surgical safety checklist confirming that we had the correct patient, that the planned procedure matched the signed consent, that all members the operating room team had been identified, that all necessary equipment was available in the room, and that each member the team had the opportunity to raise any questions or concerns.

We first proceeded with right IJ central line placement. Internal jugular vein was identified under ultrasound and accessed with a 22-gauge micropuncture needle. Then using Seldinger technique the 0.018" micropuncture wire was advanced and position within the right atrium was confirmed with fluoroscopy. A small incision was then made at the venipuncture site. The 4 French micropuncture sheath was then advanced over the wire which allowed for wire exchange to 8.0 and a standard J-wire. A 4 French Arrow nontunneled, 8 cm CVL was then advanced and final to position was confirmed under fluoroscopy to be at the RA/SVC junction. The final position was 6 cm at the skin. The line was then secured in place with 2-0 silk suture. Both lines were found to be functional and were flushed with heparin and a sterile CVL dressing was placed.

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They were then placed in supine position and the abdomen was prepped and draped in the standard sterile fashion and we proceeded with our abdominal portion of the procedure.

A transverse, midline laparotomy incision was made and carried down to the peritoneal cavity using a scalpel and electrocautery. The peritoneum was encountered and found to be tense with underlying fluid. Immediately upon entering the peritoneum a large gush of opaque, milky fluid was evacuated and seemed consistent with enteral feeds. We then performed a thorough exploration of the abdomen checking all 4 quadrants for signs of pathology. The peritoneum was inflamed as well as the bowel serosa, but there was not clear evidence of infection or abscess. Other notable findings included the incidental discovery of malrotation with right upper quadrant Ladd's bands and a Meckel's diverticulum approximately 20 cm from the ileocecal valve. We confirmed the intraperitoneal location of the nasojejunal tube which had perforated at the location of sharp angulation in the duodenum which was approximately the second or third portion.

We began by taking down the Ladd's bands in the right upper quadrant and completely kocherized the duodenum. During this process, we also lysed several mesenteric bands that were narrowing the mesentery. This effectively completely mobilized the duodenum for repair and dealt with the underlying malrotation. During this process the duodenum was partially deserosalized along it's posterior aspect. Once the duodenum was fully mobilized, we were able to see the edges of the perforation quite well. The nasojejunal tube was then advanced beyond the area of the repair, the edges were cleaned up it was ready for repair. The perforation was repair in two layers with interrupted 4-0 PDS suture. We elected not to repair the serosal tear to the duodenum as it would have likely narrowed the lumen and as it was on the retroperitoneal side, it laid nicely against the retroperitoneum. The duodenum was then laid in a natural orientation with all of the small bowel placed on the right side of the abdomen without any sharp angulations or turns. The large intestine was laid nicely on the left side of the abdomen. As this was an emergent case with a physiologic ill infant, we elected not to perform an appendectomy and not to address the incidentally discovered meckel's diverticulum. The abdomen was copiously irrigated and we began our closure.

The anterior and posterior fascia were closed separately with 2-0 PDS suture. This was followed by a 4-0 vicryl deep dermal and 5-0 vicryl subcuticular suture. Finally, the incision was dressed with steristrips, telfa, and tegaderm. Overall, he tolerated the procedure quite well and was transferred to the NICU in stable condition.