

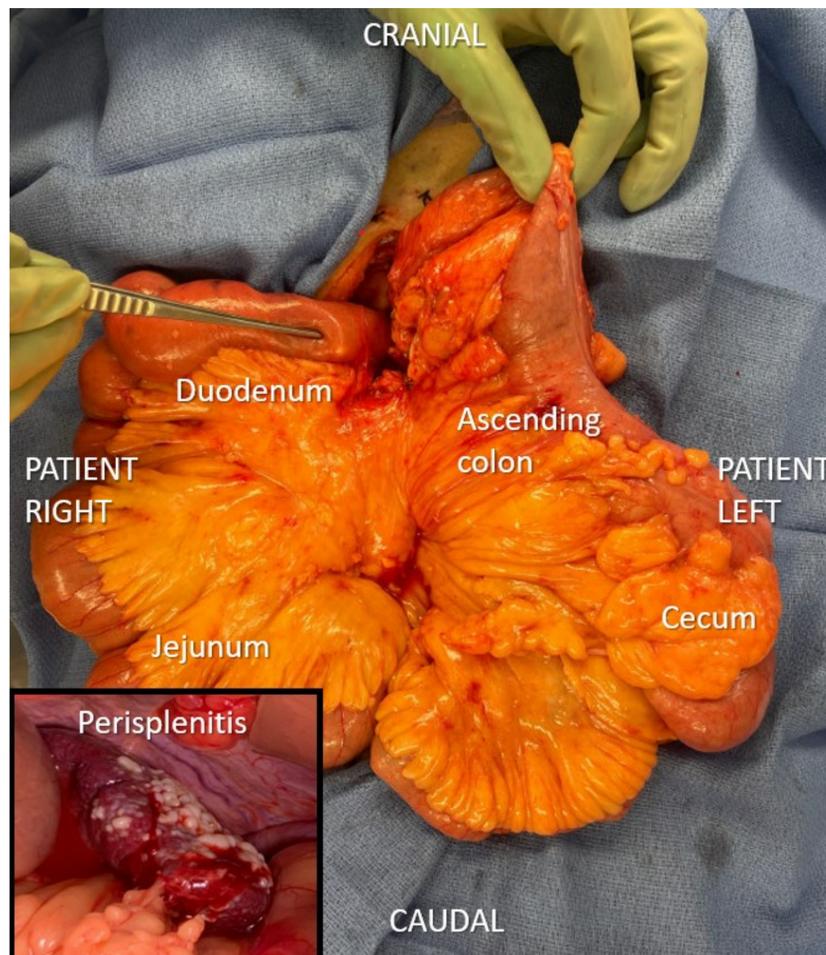
Non-rotation of the Intestines and Sugar Spleen in a Post-CABG Patient

Introduction

Embryologic intestinal rotation occurs during the 6th through 10th weeks of gestation. Non-rotation is related to malrotation, and occurs after the midgut has herniated through the umbilical sac¹. It fails to return to the abdominal cavity, likely secondary to laxity in the umbilical ring². The small and large intestine are nonrotated; however they do not have Ladd's bands as seen in traditional intestinal malrotation³.

Hospital Course

A 78-year-old male was transferred from an outside hospital following an NSTEMI and subsequent heart failure. He arrived with an intra-aortic balloon pump and an LVEF of 30%. He underwent a four-vessel coronary artery bypass graft. The patient developed a small bowel obstruction and was taken to the operating room after he failed non-operative management. His cecum and appendix were discovered in the left hemi-abdomen, and his duodenum and jejunum were to the right of the ascending colon. His small bowel obstruction was secondary to adhesions from the cecum to the descending colon (despite no prior abdominal operations). The patient ultimately underwent an ileocecectomy and primary anastomosis with return of bowel function.



Sugar Spleen

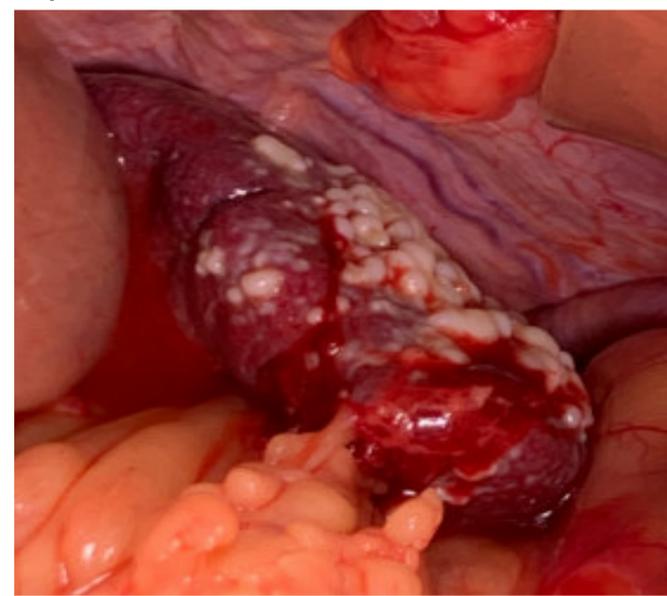
Upon re-exploration, the patient was discovered to have a “sugar spleen,” which was biopsied. This perisplenitis results after an unrelated prior indolent infection. The “sugar” is hyaline fibrous exudate, which can also deposit on the heart and the liver⁴. Ultimately, this process is not pathologic and is not clinically significant. It is most often discovered incidentally post-mortem. A frozen section confirmed our suspicions intraoperatively.

Non-rotation

The patient's lack of attachments of the cecum to the posterior abdominal wall are consistent with Type I non-rotation. Intestinal non-rotation rarely presents in adulthood. It is hypothesized that this patient developed an incarcerated internal hernia secondary to bowel wall edema in the setting of hypoperfusion due to heart failure.

Figure 1 (left): Non-rotation of the intestines demonstrated as it appeared during the patient's initial operation.

Figure 2 (below): perisplenitis observed during the patient's second operation.



Conclusions

To the best of our knowledge, non-rotation presenting as a small bowel obstruction following cardiac surgery has not been reported in the literature. Recognizing non-classical anatomy and establishing landmarks intra-operatively help guide management.

Sugar spleen, while worrisome in appearance, is a benign finding without need for intervention.

Acknowledgements

We would like to acknowledge the multi-disciplinary team that took care of this patient in the hospital, including the cardiovascular surgeons that performed his CABG when he arrived to the hospital in florid heart failure.

References

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