Pre-operative Glucose Predicts Post-Operative Complications Following Complex Abdominal Wall Reconstruction

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Disclosures

• None
Introduction

- Despite advances in surgical methods, complication rates following complex abdominal wall reconstruction (CAWR) remain high.
- Identification of preoperative risk factors can assist surgeons with risk stratification and patient counseling.
- With the increasing prevalence of diabetes (DM) and prediabetes, a greater proportion of patients are likely to have increased blood glucose levels that may contribute to poor surgical outcomes.
- The primary aim of this study was to determine whether preoperative hyperglycemia predicted surgical outcomes.
- The secondary aim was to establish glucose thresholds to assist with surgical risk stratification.
Methods

• **478 patients** that underwent CAWR by the senior author at a single institution from 2002-2021 were reviewed.

• Patient demographics, risk factors, surgical techniques, complications, and outcomes were recorded and compared.

• Mean age was **53.9 years** (SD 12.3). Mean body mass index (BMI) was **32.1** (SD 7.8)

• Patients were stratified into **four groups** based on **pre-operative blood glucose:**
  - <100 mg/dl (n=184)
  - 100-140 mg/dl (n=207)
  - 140-180 mg/dl (n=41)
  - >180 mg/dl (n=16)

• There were **no significant differences** in fascial closure technique, mesh type or placement, or overall surgical technique.

• There was **no significant difference** in the frequency of other non-related procedures performed at the time of complex abdominal wall reconstruction (bowel anastomosis, tissue expander placement, colostomy).

• There was **no significant difference** in mean follow-up time, with each cohort having roughly 1+ year of follow-up.
Results

• Higher pre-operative glucose predicted increased major and overall complications

• Higher pre-operative glucose predicted increased rates of recurrence and re-operation*
Conclusion

- Pre-operative hyperglycemia is an independent predictor of post-operative complications and recurrence following CAWR.
- We propose routinely performing point of care glucose testing on all patients, regardless of whether they have a diagnosis of diabetes.
Acknowledgments

Special thanks to **AAPS** for supporting me as a Cannon student last year and having me back to present this year.

Special thanks to **Emory University** and the Discovery Phase for supporting my trip to present here at AAPS, resident **Ciara Brown** and medical student **Shannon Su**, as well as **Drs. Faulkner** and **Losken** for oversight and guidance on this project.
References

• See QR Code for full list of References used in manuscript