ratings). The AIC values showed that the best fit BT model incorporates Angle+Scar+Interaction. Within this model, the magnitude of the angle estimate is greater than the scar estimate, and this difference is statistically significant for both Child 1 and Child 2, respectively (Wald test z = 2.671 and 7.173, **P=0.003 and ***P<0.0001). There was good correlation between each child’s photo ranks (Spearman rank = 0.957, ***P<0.001).

CONCLUSION: Our novel simulation of different cleft lip primary surgery outcomes focused on two factors: angle of the cleft lip repair, and severity of the scar. Internet crowdsourcing shows that the postoperative lip angle has a significantly greater influence on ratings of normal appearance than does the severity of scarring. This is evidence against our hypothesis. Although patients may ask about scars more, clinically their perceptions of a cleft lip repair result are more likely influenced by the angle of the cleft lip repair. This insight can help guide the preoperative discussion, intraoperative decision-making, and postoperative reassurance to the family.

A.M. Sescleifer: None. T.A. Osborn: None. J.D. Rector: None. A.Y. Lin: None.

49

Risk Stratification and Evaluation of American College of Surgeons National Surgical Quality Improvement Program Risk Calculator for Patients Undergoing Panniculectomy

Visakha Suresh, BSE1, Heather Levites, MD2, Sarah Peskoe, PhD1, Rachel Hein, MD2, Yash Avashia, MD2, Detlev Erdmann, MD, PhD, MHSc2

1Duke University School of Medicine, Durham, NC, USA, 2Duke University Medical Center, Durham, NC, USA

PURPOSE: Panniculectomy procedures have been reported to drastically improve quality of life, increase mobility, and improve hygiene in patients affected by a significant pannus formation. While the indications for performing the procedure are well-defined, medical comorbidities, such as morbid obesity, increase the risk of post-operative adverse events for a generally elective procedure. Thus, the primary aim of this study is to retrospectively review all panniculectomy procedures performed at our institution, and to determine what pre-operative risk factors, such as BMI, may be used to differentiate the rate of post-operative complications amongst patient cohorts and to validate the use of the American College of Surgeons (ACS) National Surgical Quality Improvement Program (NSQIP) risk calculator in this patient population.

METHODS: This study is a single center retrospective analysis. All patients that undergoing a procedure with the CPT code “15830” at our institution from January 2005 to December 2016 were included in this study. Baseline characteristics, preoperative risk factors, and post-operative complications were recorded via chart review. Validation of the ACS-NSQIP risk calculator was performed using statistical measures originally utilized in the development of this model.

RESULTS: 264 patients who underwent panniculectomy procedures were identified. The odds ratio of any post-operative complication was 8.26 (95% CI: 2.51–27.1) for patients with class 1 obesity, 7.76 (95% CI: 2.13–28.3) for patients with class 2 obesity, and 16.6 (95% CI: 5.13–53.9) for patients with class 3 obesity, after adjusting for age, gender, smoking status, and diagnosis of diabetes. In the evaluation of the ACS-NSQIP Surgical Risk Calculator, we performed concordance measures. We calculated the c-statistic, a measure of discrimination ranging from 0.5 (chance) to 1.0 (perfect) and reflects the extent to which cases are properly classified as having or not having an event. For this patient population, the c-statistic for the ACS-NSQIP model was only 0.61, showing that although the model is associated with the risk of complication, it does not have a strong predictive value for this particular procedure. We also performed calibration measures to assess how close the actual predicted risks are to the observed rates of complications. We calculated the Brier score, which calculates the average squared difference between patients’ predicted probability and the actual outcome (0 for a non-event and 1 for an event). The Brier score for any post-operative complications in this patient population was only 0.55. Thus, based on our analyses, the ACS-NSQIP Risk model is a statistically significantly poor fit for estimating post-operative complications in patients undergoing panniculectomy procedures.

DISCUSSION: This study is one of the first to characterize post-operative complication rate based on extremum of BMI, i.e. obesity Classes 1, 2, and 3, for patients undergoing panniculectomy procedures. Additionally, our results show that the utilization of the ACS-NSQIP Risk Calculator in this particular patient population may underestimate
the complication risk as a whole, which may necessitate the development of a separate risk assessment model for this procedure in the future.

V. Suresh: None. H. Levites: None. S. Peskoe: None. R. Hein: None. Y. Avashia: None. D. Erdmann: None.

50

Development Of A Tailored Web-based Decision Aid And Risk Calculator To Improve Patient Decision-making For Breast Reconstruction

Nicholas L. Berlin, MD, MPH¹, Jennifer B. Hamill, MPH¹, Sarah T. Hawley, PhD, MPH¹, Ji Qi, MS¹, Hyungjin M. Kim, ScD¹, David E. Varon, BA¹, Clara N. Lee, MD, MPP², Edwin G. Wilkins, MD, MS¹

¹University of Michigan, Ann Arbor, MI, USA, ²Ohio State University, Columbus, OH, USA

PURPOSE: Women considering breast reconstruction following mastectomy must choose from an array of surgical procedures with different risks and benefits. Inadequate knowledge and uncertainty about the type of breast reconstruction may lead to poor psychosocial outcomes and patient appraisal of the decision-making process. Patients report relatively low satisfaction with information regarding breast reconstruction before and after undergoing reconstruction. Furthermore, women who report lower levels of satisfaction with information are also more likely to report higher decisional regret with their reconstruction decision postoperatively. To improve the decision-making process for women considering reconstruction and to disseminate evidence-based findings from the Mastectomy Reconstruction Outcomes Consortium (MROC) study, we sought to develop a tailored web-based decision support program to improve patient knowledge and experience with the decision-making process for post-mastectomy breast reconstruction.

METHODS: Semi-structured focus groups with women who previously underwent various types of breast reconstruction and surgeons who regularly perform these procedures were conducted to identify important aspects of procedure selection and postoperative and long-term experiences. A web-based decision aid [The Breast Reconstruction Informed Decision Advisor (BRIDA)] was developed with iterative feedback sessions with patients on the usability and functionality of the program. Using data obtained from the MROC study, we built an individualized risk calculator for postoperative complications that considers patient comorbidities and the intended procedure type. Additionally, we incorporated long-term patient-reported outcomes from the MROC study such as satisfaction with breast, psychosocial well-being, sexual satisfaction, and physical well-being for different procedures into the program. BRIDA also features video vignettes of structured interviews with women who had undergone various types of breast reconstruction and a values clarification exercise to clarify patient values and preferences in the context of their surgical options for reconstruction.

RESULTS: During feasibility and usability testing with 13 women who had previously undergone reconstruction, 100% reported that they would recommend the website to others, 83% reported that the amount of information included was just right, 92% reported no issues navigating the website, and 100% reported that the time it took to complete was just right. Thus far, BRIDA has been tested in 17 women who are considering breast reconstruction following mastectomy in a randomized pilot study assessing impact on breast reconstruction knowledge and perceived experience with the decision-making process for these procedures.

CONCLUSION: BRIDA is a tailored web-based decision aid that aims to clarify patient values and preferences in the context of reconstruction, to enable an interactive side-by-side comparison of different procedures, and to generate a personalized list of considerations to discuss during preoperative consultations. Lessons learned from the development BRIDA include the importance of collaborating with a multidisciplinary team of experts in decision-making research, engaging patients and providers in focus groups for feedback on development and functionality of the program, and incorporating clinical and patient-reported outcomes for reconstruction. Preliminary findings from an ongoing pilot study of BRIDA on patient knowledge and experience with the decision-making process for breast reconstruction will provide the basis for a larger multi-institutional trial.

N.L. Berlin: None. J.B. Hamill: None. S.T. Hawley: None. J. Qi: None. H.M. Kim: None. D.E. Varon: None. C.N. Lee: None. E.G. Wilkins: None.