The Use of the Procedure Room for High-Risk Patients Undergoing WALANT Hand Surgery

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INTRODUCTION:

Patients who would be deemed high-risk individuals by traditional classifications of American Society of Anesthesiologists (ASA) or the updated guidelines of ASA Practice Advisory can safely undergo surgery under Wide Awake Local Anesthesia No Tourniquet (WALANT) in procedure room setting without any increased risks of complications. We hypothesize no increased complication rates in high-risk patients, and prompter time to surgery by using our standardized procedure room protocol.

METHODS:

436 surgeries performed in our procedure room over a 4-year period. Preoperative medical or anesthesia evaluation was not required for patients, regardless of comorbidities. No medical comorbidities precluded a patient from surgery within the procedure room. Chart review of the electronic medical record was conducted to collect the following variables for each patient: age, sex, body mass index (BMI), diabetes, smoking status, and other pertinent past medical history. All patients were risk-stratified based on two classifications systems. First, they were given a score based on the American Society of Anesthesiology (ASA) Classification System. ASA Practice Advisory for Preanesthetic Evaluation score for each patient was also determined. The incidence of post-procedure room surgical site infection (SSI) was calculated via chart review including post-operative clinic notes, emergency department visits, as well as prescriptions for antibiotics. All patients were then categorized into an SSI cohort and a non-SSI cohort. The frequency of each demographic variable, ASA Classification System score, and ASA Practice Advisory recommendation was calculated for both cohorts. Mann-Whitney Wilcoxon and Chi-squared analyses was used for continuous and categorical variables respectively to detect differences between cohorts.

RESULTS:

Among these cases, 6 resulted in an SSI and 6 resulted in other complications such as mass recurrence, need for additional/revision surgery, incomplete removal of foreign body, and need for manipulation under anesthesia**.** The incidence of SSI was 6/437 (1.4%). Our total complication rate was 2.74% The relative proportion of each risk score within both classifications was similar. For the SSI cohort, the most common ASA scores were ASA II (50%) and ASA III (50%); the most common ASA Practice Advisory recommendations were to obtain cardiac clearance (50%), no clearance required (33%), and obtain PCP clearance (17%). For the non-SSI cohort, the most common ASA scores in this group were ASA II (41%), ASA III (34%), and ASA I (25%); the most common ASA Practice Advisory recommendations were no clearance required (59%), obtain cardiac clearance (22%), and obtain PCP clearance (19%).

Patient characteristics for the complications group were not significantly different on the basis of age, BMI, smoking status, or presence of diabetes. Of the total complications, there was no association with any risk category defined by either the ASA Classification System or ASA Practice Advisory recommendations. All the patients who suffered from any complication were either an ASA I, II, or III, and were equally distributed between the different categories for ASAPA score (6 requiring no clearance, and 6 requiring either PCP or cardiac clearance). Finally, we found no significant medical complications in any patients in our cohort. No patients were transferred to the emergency department or admitted overnight after their indicated procedures.

DISCUSSION AND CONCLUSION:

Like many other previously published other studies, our study also demonstrated there is no increased risk to patients who have surgery with WALANT in the procedure room, compared to operating rooms. Our overall complication rate of 2.74% is similar to previous which found complication rates of 3% for WALANT published in literature. Our study uniquely shows that there is no increase in complications for high-risk patients who had surgeries performed in the procedure room. In our cohort, almost 30% of the patients would need some sort of additional clearance prior to having surgery at an ASC, most likely to assure the safety of the patient receiving anesthesia. Instead, our patients received prompt care within the confines of the procedure room. This study outlines a safe method for a procedure room and demonstrates that the procedure room is an effective way to treat patients of various medical complexities.

Table 1. Surgical site infection vs non-surgical site infection.

	All Patients (n = 437)	SSI (n = 6)	Non-SSI (n = 431)	*P* Value
Demographics, N (%)				
Age, mean (SD)	56.9 (16.2)	66.9 (9.56)	56.7 (16.2)	0.087
Body mass index, mean (SD)	31.0 (7.7)	30.0 (7.2)	31.1 (7.7)	0.823
Sex				
Male	154 (35)	3 (50)	151 (35)	0.447
Female	283 (65)	3 (50)	280 (65)	0.447
Total Diabetes	121 (28)	2 (33)	119 (28))	0.756
Diabetes	87 (20)	1 (17)	86 (20)	0.842
Pre-diabetes	34 (8)	1 (17)	33 (8)	0.414
Current smoker	65 (15)	1 (17)	64 (15)	0.901
ASA Score, N (%)				
ASA I	106 (24)	0 (0)	106 (25)	0.163
ASA II	178 (41)	3 (50)	175 (41)	0.642
ASA III	150 (34)	3 (50)	147 (34)	0.416
ASA IV	3 (1)	0 (0)	3 (1)	0.837
ASA V	0 (0)	0 (0)	0 (0)	1.000
ASAPA, N (%)				
No clearance required	255 (58)	2 (33)	253 (59)	0.211
Obtain PCP clearance	85 (19)	1 (17)	84 (19)	0.862
Obtain cardiac clearance	97 (2)	3 (50)	94 (22)	0.099

Table 2. Complications vs non-complications.

	All Patients (n = 437)	Complications (n = 12)	Non-complications (n = 425)	*P* Value
Demographics, N(%)				
Age, mean (SD)	56.9 (16.2)	56.3 (18.9)	56.9 (16.1)	0.779
Body mass index, mean (SD)	31.0 (7.7)	27.5 (6.3)	31.2 (7.7)	0.901
Sex				
Male	154 (35)	4 (33)	150 (35)	0.889
Female	283 (65)	8 (67)	275 (65)	0.889
Total Diabetes	121 (28)	3 (25)	118 (28)	0.833
Diabetes	87 (20)	2 (17)	85 (20)	0.776
Pre-diabetes	34 (8)	1 (8)	33 (8)	0.942
Current smoker	65 (15)	1 (8)	64 (15)	0.519
ASA Score, N (%)				
ASA I	106 (24)	2 (17)	104 (24)	0.534
ASA II	178 (41)	6 (50)	172 (40)	0.508
ASA III	150 (34)	4 (33)	146 (34)	0.941
ASA IV	3 (1)	0 (0)	3 (1)	0.771
ASA V	0 (0)	0 (0)	0 (0)	1.000
ASAPA, N (%)				
No clearance required	255 (58)	6 (50)	249 (59)	0.552
Obtain PCP clearance	85 (19)	3 (25)	82 (19)	0.623
Obtain cardiac clearance	97 (2)	3 (25)	94 (22)	0.813