**Supplemental Table A**

**Primer designs for SLC30A8/ZnT8 exon 8**

Forward primer 5’- CCCCAGCAGGTCAAAGACAAA-3’ nucleotide position # 227165-227185

Reverse Primer 5’- TAGCAGCATGTTTGAAGGTGG -3’ nucleotide position # 227465-227445

Sequencing Primer 5’- GAAGTTGGAGTCAGAGCAGTC -3’ nucleotide position # 227192-227212

Nucleotide numbering was according to the ascension number NG\_016991.1 (NCBI Genebank).

**Supplemental Table B.**

**Unadjusted Odds Ratios for Predictors of Clinical Outcomes of Complex Ventral Hernia Repair: clinical, laboratory, image- based indices, details of operation, and SLC30A8/ZnT8 genotype**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **LOS ≥ 7 Days** | | **SSO** | | **SSO-I** | | **Hyperglycemia-POHG** | |
| **Predictors** | **Reference** | **OR (95% CI)** | ***p* Value** | **OR (95% CI)** | ***p* Value** | **OR (95% CI)** | ***p* Value** | **OR (95% CI)** | ***p* Value** |
| **Preoperative attributes** |  |  |  |  |  |  |  |  |  |
| **Age** | **<55** | **2.95 (1.10, 7.89)** | **0.0272** | **1.05 (0.44, 2.53)** | **0.9155** | **1.40 (0.48, 4.07)** | **0.5355** | **1.40 (0.65, 3.00)** | **0.3867** |
| **BMI** | **<34 kg/m2** | **1.60 (0.61, 4.15)** | **0.3357** | **2.05 (0.80, 5.22)** | **0.1300** | **1.35 (0.45, 4.01)** | **0.5924** | **2.16 (0.99, 4.72)** | **0.0527** |
| **BMI** | **<32 kg/m2** | **1.80 (0.61, 5.33)** | **0.2846** | **1.67 (0.60, 4.62)** | **0.3227** | **0.98 (0.31, 3.08)** | **0.9745** | **2.40 (1.02, 5.63)** | **0.0419** |
| **BMI** | **<30 kg/m2** | **1.50 (0.40, 5.68)** | **0.5463** | **3.04 (0.65, 14.17)** | **0.1392** | **1.55 (0.32, 7.44)** | **0.5848** | **1.26 (0.46, 3.42)** | **0.656** |
| **Sex** | **Male** | **1.21 (0.47, 3.08)** | **0.695** | **1.02 (0.42, 2.49)** | **0.9605** | **1.29 (0.43, 3.84)** | **0.6475** | **2.01 (0.92, 4.40)** | **0.0785** |
| **ASA Class** | **2** | **2.13 (0.80, 5.70)** | **0.1258** | **1.72 (0.69, 4.28)** | **0.2437** | **2.76 (0.83, 9.16)** | **0.0888** | **2.72 (1.23, 6.00)** | **0.0122** |
| **Diabetes medication** | **No** | **2.78 (0.99, 7.80)** | **0.0463** | **3.75 (1.38, 10.18)** | **0.0071** | **5.71 (1.84, 17.74)** | **0.0012** | **40.55 (5.19, 316.77)** | **<.0001** |
| **Pain medication** | **No** | **1.45 (0.42, 5.08)** | **0.5552** | **1.21 (0.35, 4.17)** | **0.7663** | **1.58 (0.39, 6.36)** | **0.5191** | **2.60 (0.82, 8.21)** | **0.0951** |
| **Hyperlipidemia medication** | **No** | **1.70 (0.67, 4.29)** | **0.2576** | **3.58 (1.42, 9.03)** | **0.0053** | **5.29 (1.58, 17.71)** | **0.0036** | **2.54 (1.16, 5.59)** | **0.0191** |
| **Insulin use** | **No** | **4.56 (1.19, 17.41)** | **0.0177** | **3.76 (1.00, 14.22)** | **0.0396** | **8.09 (2.02, 32.45)** | **0.0009** | **12.29 (1.50, 100.88)** | **0.004** |
| **COPD** | **No** | **4.05 (0.54, 30.43)** | **0.145** | **undefined** | **0.2570** | **undefined** | **0.4006** | **0.37 (0.04, 3.65)** | **0.3747** |
| **Sleep apnea** | **No** | **0.97 (0.36, 2.64)** | **0.9559** | **0.99 (0.38, 2.57)** | **0.9859** | **1.41 (0.47, 4.27)** | **0.5371** | **1.72 (0.76, 3.90)** | **0.1953** |
| **Coronary artery disease** | **No** | **1.22 (0.44, 3.34)** | **0.7018** | **3.14 (1.24, 7.97)** | **0.0134** | **3.27 (1.10, 9.74)** | **0.0272** | **2.35 (0.98, 5.64)** | **0.0525** |
| **Hypertension** | **No** | **1.32 (0.52, 3.38)** | **0.5568** | **1.72 (0.69, 4.28)** | **0.2437** | **2.76 (0.83, 9.16)** | **0.0888** | **2.12 (0.97, 4.61)** | **0.0568** |
| **Preoperative glucose** | **<200 mg/dl** | **3.91 (0.24, 65.00)** | **0.3073** | **3.32 (0.20, 55.02)** | **0.3758** | **0.00 (0.00, 0.00)** | **0.556** | **1.14 (0.07, 18.76)** | **0.9254** |
| **HbA1C (n=70)** | **<6.5%** | **1.68 (0.52, 5.44)** | **0.3851** | **0.92 (0.30, 2.85)** | **0.8895** | **1.30 (0.38, 4.40)** | **0.674** | **6.49 (1.68, 25.07)** | **0.0034** |
| **Dysglycemic#** |  | **3.86 (1.31, 11.32)** | **0.0102** | **4.85 (1.67, 14.06)** | **0.0021** | **7.30 (1.57, 33.93)** | **0.0042** | **4.53 (1.98, 10.35)** | **0.0002** |
| **Genetics** |  |  |  |  |  |  |  |  |  |
| **ZNT8** | **SNP** | **0.34 (0.13, 0.89)** | **0.0249** | **0.40 (0.16, 1.00)** | **0.046** | **0.31 (0.10, 0.96)** | **0.0351** | **0.28 (0.13, 0.63)** | **0.0017** |
| **ZNT8** | **WT** | **2.92 (1.12, 7.63)** | **0.0249** | **2.47 (1.00, 6.10)** | **0.046** | **3.24 (1.04, 10.08)** | **0.0351** | **3.53 (1.58, 7.87)** | **0.0017** |
| **CT Scan Indices** |  |  |  |  |  |  |  |  |  |
| **Hepatic steatosis** | **No** | **1.93 (0.76, 4.89)** | **0.1612** | **2.60 (1.05, 6.42)** | **0.0352** | **7.30 (1.95, 27.43)** | **0.001** | **3.53 (1.58, 7.87)** | **0.0017** |
| **Waist circumference** | **<100 cm** | **2.37 (0.50, 11.13)** | **0.2637** | **1.67 (0.44, 6.28)** | **0.4466** | **3.31 (0.41, 26.81)** | **0.2368** | **1.96 (0.67, 5.67)** | **0.2117** |
| **Hip circumference** | **<100 cm** | **2.93 (0.63, 13.64)** | **0.1538** | **2.09 (0.56, 7.76)** | **0.2622** | **1.77 (0.37, 8.48)** | **0.4681** | **2.62 (0.93, 7.39)** | **0.0629** |
| **Visceral fat area** | **<200 cm2** | **1.95 (0.73, 5.20)** | **0.1802** | **5.77 (1.83, 18.18)** | **0.0013** | **6.43 (1.38, 29.86)** | **0.0082** | **2.42 (1.09, 5.36)** | **0.0285** |
| **Subcutaneous fat area** | **<200 cm2** | **5.74 (0.72, 45.48)** | **0.0652** | **3.04 (0.65, 14.17)** | **0.1392** | **1.55 (0.32, 7.44)** | **0.5848** | **1.64 (0.59, 4.55)** | **0.3409** |
| **Visceral fat percentage** | **<30 %** | **0.83 (0.24, 2.85)** | **0.7726** | **2.61 (0.56, 12.25)** | **0.2102** | **3.08 (0.38, 24.99)** | **0.2705** | **2.15 (0.69, 6.69)** | **0.1784** |
| **Total fat area** | **<500 cm2** | **1.91 (0.68, 5.31)** | **0.2122** | **4.33 (1.37, 13.66)** | **0.0083** | **4.96 (1.07, 23.09)** | **0.0266** | **2.31 (1.03, 5.19)** | **0.0398** |
| **Waist to hip ratio** | **<1** | **1.92 (0.59, 6.20)** | **0.2721** | **3.44 (0.95, 12.47)** | **0.0496** | **6.36 (0.80, 50.53)** | **0.0482** | **0.57 (0.24, 1.35)** | **0.1987** |
| **Waist to height ratio** | **<.65** | **2.53 (0.91, 7.01)** | **0.0697** | **2.47 (0.94, 6.49)** | **0.0623** | **2.53 (0.76, 8.42)** | **0.121** | **3.91 (1.72, 8.90)** | **0.0009** |
| **Surgical attributes** |  |  |  |  |  |  |  |  |  |
| **Bowel resection** | **No** | **3.49 (1.07, 11.36)** | **0.0306** | **1.35 (0.38, 4.71)** | **0.6418** | **0.98 (0.20, 4.84)** | **0.9765** | **0.59 (0.18, 1.90)** | **0.3756** |
| **Organ resection** | **No** | **2.41 (0.94, 6.18)** | **0.0638** | **0.94 (0.36, 2.43)** | **0.8955** | **0.97 (0.31, 3.04)** | **0.9579** | **1.44 (0.64, 3.26)** | **0.3794** |
| **Recurrent Hernia** | **No** | **1.30 (0.52, 3.27)** | **0.5783** | **2.22 (0.91, 5.42)** | **0.0775** | **1.89 (0.65, 5.52)** | **0.2369** | **2.17 (0.99, 4.73)** | **0.051** |
| **Operation time** | **<300 minutes** | **2.10 (0.82, 5.38)** | **0.1167** | **1.48 (0.61, 3.58)** | **0.3813** | **0.65 (0.22, 1.94)** | **0.4418** | **2.18 (1.00, 4.74)** | **0.0472** |
| **Mesh** | **No** | **undefined** | **0.463** | **undefined** | **0.4272** | **undefined** | **0.556** | **undefined** | **0.2834** |
| **Postoperative findings** |  |  |  |  |  |  |  |  |  |
| **Index of Glucose Control** | **<140 mg/dl and no insulin** | **2.37 (0.91, 6.17)** | **0.0731** | **5.05 (1.83, 13.90)** | **0.0009** | **9.69 (2.08, 45.11)** | **0.0008** | **undefined** | **<.0001** |
| **Insulin use** | **No** | **2.75 (1.05, 7.25)** | **0.0362** | **3.38 (1.32, 8.62)** | **0.0088** | **3.48 (1.16, 10.38)** | **0.0203** | **65.74 (8.43, 512.76)** | **<.0001** |
| **POHG** | **<140 mg/dl** | **2.63 (1.00, 6.87)** | **0.0449** | **4.38 (1.65, 11.61)** | **0.002** | **10.69 (2.29, 49.89)** | **0.0004** | **undefined** | **<.0001** |

**Abbreviations:**

**OR, odds ratio; BMI, body mass index (calculated as weight in kilograms divided by height in meters squared); SSO, surgical site occurrence; SSO-I, surgical site occurrence with intervention; POHG, postoperative hyperglycemia; SI conversion factor: To convert POHG to millimoles per liter, multiply by 0.0555.**