**Table 1. Patient demographics**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Variables** | | **n** | **Percentage (%)** | |
| Gender | Male | 219 | 64.1% | |
|  | Female | 123 | 35.9% | |
| ASA class | I | 34 | 11% | |
| II | 88 | 27.5% | |
| III | 185 | 57.8% | |
|  | IV | 12 | 3.7% | |
| Ablation primary | Oral Cavity | 161 | 47.1% | |
| Cutaneous/Salivary | 123 | 36.0% | |
|  | Oropharynx | 28 | 8.2% | |
|  | Larynx | 12 | 3.5% | |
|  | Others | 18 | 5.2% | |
| Tracheostomy | No | 228 | 66.7% | |
| Yes | 114 | 33.3% | |
| Defect type | Mucosal | 221 | 64.7% | |
| Cutaneous | 121 | 35.3% | |
| Reconstruction type | Soft tissue | 218 | 63.7% | |
| Composite | 124 | 36.3% | |
| Bone resection | No | 221 | 64.6% | |
| Yes | 121 | 35.4% | |
| Prior radiotherapy | No | 269 | 78.7% | |
| Yes | 73 | 21.3% | |
| Prior HN surgery | No | 224 | 65.5% | |
| Yes | 118 | 34.5% | |
| Double free flap | Single | 337 | 98.5% | |
| Double | 5 | 1.5% | |
| Donor site | ALT | 140\* | 40.9% | |
| Radial Forearm | 94 | 27.5% | |
| Fibula | 52\* | 14% | |
| SCIP | 23 | 6.7% | |
| LD | 19 | 5.5% | |
| DCIA | 6\* | | 1.8% |
| Ascending helical | 5 | | 1.5% |
|  | Gracilis | 3 | | 0.8% |
|  | UFFF | 2 | | 0.5% |
|  | Temporoparietal fascia | 2 | | 0.5% |
|  | Scapula | 2 | | 0.5% |

\*Five patients had a double free flap, four ALT+Fibula and one ALT+DCIA

**Table 2. All complications**

|  |  |  |
| --- | --- | --- |
| Characteristic | n | % |
| Surgical Complications | 114 | 33.3 |
| Flap related complications | 92 | 26.9 |
| Total flap failure  Partial flap necrosis | 8  7 | 2.3  2.0 |
| Recipient site Complications:  Fistula formation  Wound infection  Wound dehiscence | 19  27  40 | 5.6  7.9  11.7 |
| Donor site Complications:  Skin graft loss  Wound infection  Wound dehiscence | 1  15  8 | 0.3  4.4  2.3 |
| Non-Flap related complications | 26 | 7.6 |
| Abscess  Chyle leak  Haematoma  Seroma  Salivary Collection | 1  2  21  1  1 | 0.3  0.6  6.1  0.3  0.3 |
| **Medical Complications** | 30 | 8.8 |
| Pneumonia  Pulmonary Embolus  Renal Insufficiency  UTI  Stroke  Myocardial Infarction  Symptomatic DVT | 19  1  5  2  1  1  1 | 5.6  0.3  1.5  0.6  0.3  0.3  0.3 |
| Readmission to ICU  Hospital readmission  Death in hospital | 5  11  3 | 1.5  3.2  0.9 |
| Return to theatre | 61 | 17.7 |

**Table 3. Logistic Regression Multivariable Model for All Complications**

|  |  |  |  |
| --- | --- | --- | --- |
| **All complications** | **OR** | **95%CI** | **P** |
| Operative time (> 9h v ≤ 9h) | 1.92 | 1.18-3.13 | 0.009 |
| Age (year2) | 1.00 | 1.00-1.00 | 0.002 |
| ASA  II v I  III v I  IV v I | 0.98  0.74  1.15 | 0.39-2.48  0.29-1.86  0.25-5.22 | 0.978  0.531  0.847 |
| Prior radiotherapy | 1.75 | 0.98-3.11 | 0.054 |
| Defect  Mucosal v Cutaneous | 0.68 | 0.36-1.28 | 0.241 |
| Reconstruction  Composite v Fasciocutaneous | 0.80 | 0.47-1.36 | 0.428 |
| Tracheostomy | 2.02 | 1.12-3.58 | 0.015 |

**Table 4. Logistic Regression Multivariable Model for Surgical Complications**

|  |  |  |  |
| --- | --- | --- | --- |
| **Surgical Complications** | **OR** | **95%CI** | **P** |
| Operative Time (> 9h v ≤ 9h) | 2.01 | 1.23-3.28 | 0.005 |
| Age (year2) | 1.00 | 1.00-1.00 | 0.079 |
| ASA  II v I  III v I  IV v I | 0.94  0.91  2.00 | 0.37-2.39  0.36-2.29  0.45-8.87 | 0.909  0.852  0.361 |
| Prior radiotherapy | 1.28 | 0.72-2.28 | 0.390 |
| Defect  Mucosal v Cutaneous | 0.62 | 0.35-1.09 | 0.101 |
| Reconstruction  Composite v Fasciocutaneous | 0.89 | 0.52-1.51 | 0.679 |

**Table 5. Logistic Regression Multivariable Model for Return to Theatre**

|  |  |  |  |
| --- | --- | --- | --- |
| **Return to theatre** | **OR** | **95%CI** | **P** |
| Operative Time (> 9h v ≤ 9h) | 2.26 | 1.24-4.12 | 0.008 |
| Age (year2) | 1.00 | 0.99-1.00 | 0.106 |
| ASA  II v I  III v I  IV v I | 0.85  0.71  1.2 | 0.26-2.68  0.22-2.23  0.22-6.58 | 0.784  0.560  0.828 |
| Prior radiotherapy | 1.34 | 0.67-2.68 | 0.392 |
| Defect  Mucosal v Cutaneous | 0.97 | 0.48-1.94 | 0.946 |
| Reconstruction  Composite v Fasciocutaneous | 1.28 | 0.67-2.44 | 0.439 |