Postoperative Management After Total Pharyngolaryngectomy Using The Free Ileocolon Flap: A 5-year Surgical Intensive Care Unit Experience

Oscar J. Manrique, MD; Pedro Ciudad MD, PhD; Ketan M. Patel, MD; Federico Lo Torto, MD, Mouchammed Agko, MD; Hsu-Tang Cheng, MD; Hung-Chi Chen, MD, PhD

Background and Purpose
Operative management after total pharyngolaryngectomy with free ileocolon flaps can be challenging and complex.[1-3] Adequate postoperative surgical ICU guidelines are essential in order to avoid postoperative complications.[4, 5] Additional factors such as agitation, hypotension or prolonged mechanical ventilation might compromise final outcomes. The purpose of this study is to describe our long-term experience in the early postoperative care of patients after total pharyngolaryngectomy with immediate reconstruction using free ileocolon flap transfer.

Methods
During 2010 and 2015, all patients who underwent total pharyngolaryngectomy and immediate reconstruction using free Ileocolon flap were analyzed. Etiology of resection, neo-adjuvant therapy, surgical time, method of sedation, postoperative episodes of hypotension (MAP <60 mm Hg) requiring vasopressors, length of ICU stay, time of extubation and complications were recorded.

Results
During this 5-year period, a total of 34 free ileocolon flaps were performed. The most common cause of total pharyngolaryngectomy was cancer. 28 patients had neo-adjuvant therapy. The average surgical time was 11.5 hours (range: 8-14.5 hours). The most common sedatives during surgery and during the ICU period were Midazolam and Dexmedetomidine. The average length of ICU stay was 3 days (2-15 days) with an average time for extubation of 3 days (1-20 days). In terms of complications, 3 patients required vasopressors due to hypotension (MAP<60 mm Hg), 2 had none planned/attempt-self extubation, 2 presented with postoperative bleeding/hematoma, 1 had pneumonia, 4 required unplanned return to the OR, 2 had partial flap loss and 1 had complete flap loss. Univariate analysis showed that factors such as hypotension with vasopressor requirements ($p<0.05$) and none planned/attempt-self extubation ($p<0.04$) was associated with unplanned return to the operating room.

Conclusion
Our data suggests that episodes of hypotension and unplanned extubation could lead to irreparable surgical complications. As other free enteric flaps, Ileocolon flap tolerates only a short ischemia time. It also harbors a great amount of bacteria, which would initiate autolysis when the ischemia starts. Therefore, special attention should be given to these patients and rigorous postoperative guidelines are essential in order to minimize complications.

References
1. Mardini S, Salgado CJ, Kim Evans KF, Chen HC. Reconstruction of the esophagus and voice. Plast Reconstr Surg. 2010;126(2):471-85.
2. Rampazzo A, Gharb BB, Spanio di Spilimbergo S, Chung KP, Chen HC. Voice reconstruction with free ileocolon flap transfer: implications for the lower respiratory tract. Plast Reconstr Surg. 2011;127(5):1916-24.
3. Chen HC, Kuo HC, Chung KP, Chen SH, Tang YB, Su S. Quality improvement of microsurgery through telecommunication--the postoperative care after microvascular transfer of intestine. Microsurgery. 2012;32(2):96-102.
4. Chang CC, Kao HK, Huang JJ, Tsao CK, Cheng MH, Wei FC. Postoperative alcohol withdrawal syndrome and neuropsychological disorder in patients after head and neck cancer ablation followed by microsurgical free tissue transfer. J Reconstr Microsurg. 2013;29(2):131-6.
5. Haddock NT, Gobble RM, Levine JP. More consistent postoperative care and monitoring can reduce costs following microvascular free flap reconstruction. J Reconstr Microsurg. 2010;26(7):435-9.