NICU to undergo nap polysomnography. Included were infants without airway obstruction, gestational age 37–42 weeks, and age <30 days. Data included apnea-hypopnea indices, pulse oximetry, CO₂, electroencephalogram, and ECG. One blinded sleep physician read all studies. Sleep data for newborns undergoing MDO were collected prospectively (2016–2018). All data were collected and analyzed using REDCap and SPSS software.

RESULTS: Nineteen neonates without airway obstruction provided normative sleep data; median age at polysomnography was 4 days, and median sleep time was 182 minutes. Median total apnea-hypopnea (AH), obstructive apnea-hypopnea (OAH), and central apnea indices (CAI) were 6.92, 4.92, and 0.66 events/h. The median O₂ nadir was 91%. Polysomnography was done on 12 neonates with airway obstruction before and after MDO. Compared with the controls, there were no significant differences in age, race, or gender. Median age at preoperative study was 7 days, and median sleep time was 333 minutes. Median AHI was 44.60, OAH was 41.91, and CAI was 1.97. Median O₂ nadir was 82%. Before undergoing MDO, neonates with airway obstruction had significantly worse AHI, OAH, and O₂ nadir than normative counterparts \((P < 0.001)\). There was no significant difference in CAI. Post-surgical sleep data were collected after activation phase of MDO; median age was 47 days, and median sleep time was 332 minutes. In this group, median AHI was 6.08, OAH was 3.95, and CAI was 1.32. Median O₂ nadir was 93.5%. Paired \(t\) tests demonstrated significant improvements in OAH \((P < 0.001)\), AHI \((P < 0.001)\), and oxygen saturation nadir after MDO \((P = 0.004)\). When comparing the normative group to neonates who underwent MDO, there was no significant difference in oxygenation or any apnea-hypopnea index.

CONCLUSION: In children, OAH > 1 is considered abnormal; this norm has been extrapolated to neonates. Our findings demonstrate “normal” neonates have more obstructive and central apneic events than previously appreciated, with a median of 4.92 obstructive and 6.92 total events per hour. Furthermore, newborns without airway obstruction still exhibit a wide range of “normal” OAH values (1.66–19.08). Newborns with airway obstruction had significantly worse OAH/AHI and O₂ saturation nadir than their nonobstructed counterparts and exhibited improvement to normative levels following MDO. Each center with a multidisciplinary MDO team should consider collecting normative neonatal sleep data to reflect their regional population, enabling calibration of existing patient selection algorithms and informing important discussions with anxious parents.

Functional Results of Oral Cavity Organs Reconstruction By Innervated Free Flaps in Oncological Patients

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INTRODUCTION: Reconstruction of the oral cavity organs by microsurgical autotransplantation after the radical surgical treatment is a method of choice to return patients to the normal life. The tissues used as a donor area provide an opportunity for simultaneous reinnervation. The use of innervated flaps has advantages, the most important of which are restoration of sensation and decreasing autograft involution.

PURPOSE: Improving the functional results of the reconstruction of the organs of the oral cavity, assessing the benefits of using reinnervated free flaps.

MATERIALS AND METHODS: In 2014–2019 in the Sechenov University were performed 30 reconstructive operations on the oral cavity using reinnervated flaps. Reconstruction was mostly performed with a free radial flap with the inclusion of the lateral cutaneous nerve (n = 18), for the more extensive defects a free thoracodorsal flap with the inclusion of the thoracodorsal nerve was used (n = 8) and also a rectal muscle flap with the inclusion of the 12th intercostal nerve (n = 4). Anastomoses were performed mainly to the branches of the hyoid nerve and the large ear nerve. Such operations were performed simultaneously to the patients without regional and distant metastases: T (1–4) N0M0, and in the delayed period to the patients without continued growth or relapse. The treatment results were evaluated at 0, 5, 1, and 1.5 years after surgery. To assess the results, we used modified EORTC QLQ-H&N35 questionnaire. Also, the restoration of sensitivity, speech intelligibility, and swallowing were assessed. As an objective method, we start to use histological evaluation and immunohistochemical staining of biopsy specimens. To determinate the functional results, we use functional magnetic resonance imaging.

RESULTS: Research work continues. All patients were discharged 3–4 weeks after surgery. After 5 weeks, all
patients were restored nutrition through the mouth, after 5–6 months, intelligible speech appeared. After 6 months, the first signs of restoration of sensitivity were noted, for a period of 1 year, the results tended to improve.

CONCLUSION: The use of functional flaps allows patients to return neo-organ sensitivity, which avoids the occurrence of burns and biting, chronic ulcers. Also, the results of restoration of speech formation are significantly better, in 100% the act of swallowing was restored. Most patients were fully rehabilitated and return to the profession. The brain imaging data demonstrate that the cortex adapts tongue movements by expanding the tactile sensory receptive fields, this would suggest that sensate flaps may impart a functional advantage.

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A Nationwide Analysis of Cleft Palate Repair: Impact of Local Anesthesia on Operative Outcomes and Hospital Cost

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PURPOSE: Limited evidence exists on the impact of local anesthesia (LA) on operative outcomes and cost in pediatric craniofacial surgery. This study aims to investigate the associations between LA choice and short-term outcomes, as well as hospital cost, for cleft palate repair in the United States.

METHODS: Patients undergoing cleft palate repair between 2004 and 2015 were abstracted from the Pediatric Health Information System database. Primary outcomes—which included any operative complication, prolonged hospital length-of-stay (LOS), and increased hospital total cost—were compared among 3 patient groups: no LA, LA without epinephrine, and LA with epinephrine. Multiple logistic regressions were used to control for potential confounders, comorbidities, and hospital characteristics. Area under the receiver operating characteristic curve was calculated to assess the predictive accuracy of logistic regression models.

RESULTS: Seventeen thousand eight hundred eighty-eight patients from 49 institutions met the study criteria: 5,640 (31.5%) patients did not receive LA, 647 (3.6%) received epinephrine-free LA, and 11,601 (64.9%) received epinephrine-containing LA. Regarding operative complication, compared with epinephrine-containing LA, using no LA was associated with increased odds of complication in both univariate and multivariate analyses (odds ratio [OR], 1.24 [1.07–1.44], P < 0.001; adjusted OR [AOR], 1.26 [1.07–1.48]; P = 0.005). Complication rate did not significantly differ between using LA with and without epinephrine (OR, 0.84 [0.54–1.30], P = 0.430; AOR, 0.82 [0.51–1.26], P = 0.384). In terms of hospital LOS, patients receiving LA without epinephrine had significantly lower odds of prolonged LOS than those having epinephrine-containing LA both before and after controlling for potential confounders (OR, 0.56 [0.36–0.88], P = 0.012; AOR, 0.41 [0.25–0.63], P < 0.001). The likelihood of prolonged LOS was not significantly different between patients receiving epinephrine-containing LA and those having no LA (OR, 0.92 [0.80–1.06], P = 0.263; AOR, 0.97 [0.83–1.12], P = 0.659). With respect to hospital cost, using no LA was associated with high cost compared with epinephrine-containing LA in both adjusted and unadjusted analyses (OR, 1.19 [1.10–1.29], P < 0.001; AOR, 1.32 [1.22–1.44], P < 0.001). LA without epinephrine was not significantly different from LA with epinephrine regarding odds of increased hospital cost (OR, 0.84 [0.68–1.04], P = 0.115; AOR, 0.86 [0.69–1.08], P = 0.198). For all multiple logistic regressions, area under the receiver operating characteristic curve values were greater than the cut-off of 0.70; corrected variance inflation factors were below the cut-off of 5.

CONCLUSIONS: After controlling for potential confounders, including patient demographics, comorbidities, and hospital characteristics, epinephrine-containing LA is associated with lower operative complication and hospital cost compared with using no LA in cleft palate repair. However, compared with epinephrine-free LA,