Obstructive sleep apnea hypopnea syndrome (OSAHS) is considered an important social problem due to the way it affects the quality of life of patients and those around them. It is characterized by sleep-disordered breathing (SDB), which includes sleep-related apneas that interrupt sleep strategies in patients who are unaware of disease symptoms. Tongue base and hypopharyngeal obstruction are an important area that may compromise sleep and surgery in this area has been extremely difficult to deal with in the past due to the complexity of the procedure. In recent years, Minoo Goudarzi et al. and Freidman et al. have described their results with the use of Trasartal Robotic Surgery with the De Vinci Robot for tongue base achieving excellent results. We describe our experience with this innovative technique and present our results and our management of patients with OSAHS.

METHODS AND MATERIALS

Eleven patients with moderate to severe OSAHS with severe hypopnea obstruction of the tongue base treated with TORS at the University Clinic of Gionnes between August 2011 and March 2012. Exclusion criteria: Significant symptoms of snoring and/or daytime sleepiness. Moderate to severe OSAHS confirmed by a formal polysomnogram (defined as an AHI > 20). Preoperative and Postoperative follow-up, Awake and Drug-induced sleep endoscopy that suggested an obstruction of the tongue base or epiglottis, Documented intolerance of CPAP or BIPAP or refusal to use it, Adult age <18, Informed consent of the procedure. Exclusion criteria: Failure to attend postoperative follow-up, History of malignancy or infection. Results: All patients performed well in any of the patients operated. Instead, all patients were admitted for the first 24 hours in the intensive Care Unit (ICU) for observation. In all patients but one had other surgical procedures for OSAHS performed at the same time as UPPF (palatal flap, epiglottoplasty, radiofrequency turbinoplasty reduction, tonsillectomy or functional endoscopic sinus surgery). In all patients we performed a complete Clinical history, awake and sleep endoscopy evaluation, CT imaging and pre and post operative polysomnography, Esophageal Sphincter State (ESS) and a visual analog scale for pain.

Eleven patients are included in the study. Only one patient had previously undergone surgery for sleep apnea. A TIPP, genioglossal advancement procedure and anti-Leptospirosis had been performed. All patients completed surgery successfully without any complications, without any need to shift to open procedures. In postoperative period no serious complications were observed. Only one patient presented in the 2 day a minor bleeding at the base of the tongue that did not require intervention. No revision surgery was necessary in any case. All patients completed of ophthalmology between the second and 14th day with a slight bleed between the 4th and 6th day. All patients but one had a transoral performed in the same procedure. Regarding operative Mean surgical time of the Robotic Procedure was 33 ± 32.5 minutes and mean self-time was up to 33.2 ± 31.5 minutes.

Table 1 describe our results in the eleven patients. All patients lost the evidence of snoring. Three patients had a worsening of the AHI index in the Postoperative period, but with an improvement of Mean O2 saturation, duration of apnea hypopnea, ESS and satisfaction rating as they were all able to tolerate treatment.

CONCLUSIONS

Results of TORS surgery offers an important advantage through technological skills, temporal and functional outcomes of the base tongue. Our series of eleven patients with severe OSAHS, results were very favorable especially if we take into account patients satisfying, ESS and AHI index, median O2 saturation was 91% during the night and 99% during the day. In our series three patients had a worsening of the AHI, although an important improvement of ESS and Mean O2 saturation. This is significant given that the surgery was performed without any complications and is in line with satisfaction of the postoperative period.

In conclusion that Da Vinci is a Surgical Endoscope® is an extremely useful tool in assessment of disease in patients that have obstruction of the tongue base. Surgical resection with the Da Vinci Robot became easier, more secure, TORS is the “gold standard” for an effective and safe surgical intervention performed in a safe and minimally invasive or robot-assisted procedure.

REFERENCES


Fig. 2 Mean Pre and Post AHI

Fig. 4 Mean Pre and Post ESS

Table 1: Patients demographics

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Fig. 3: Tongue base and tongue resection with De Vinci Robot.