

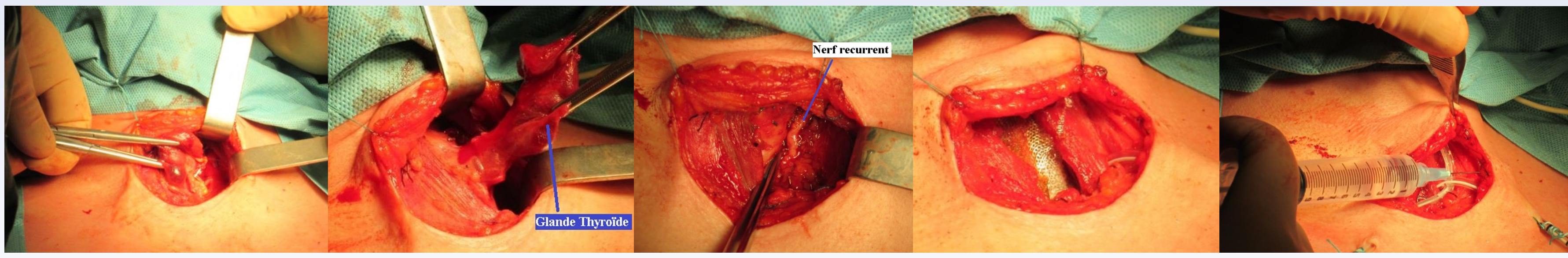
Post-thyroidectomy and Perturbation of Aerodynamic and Acoustic Parameters



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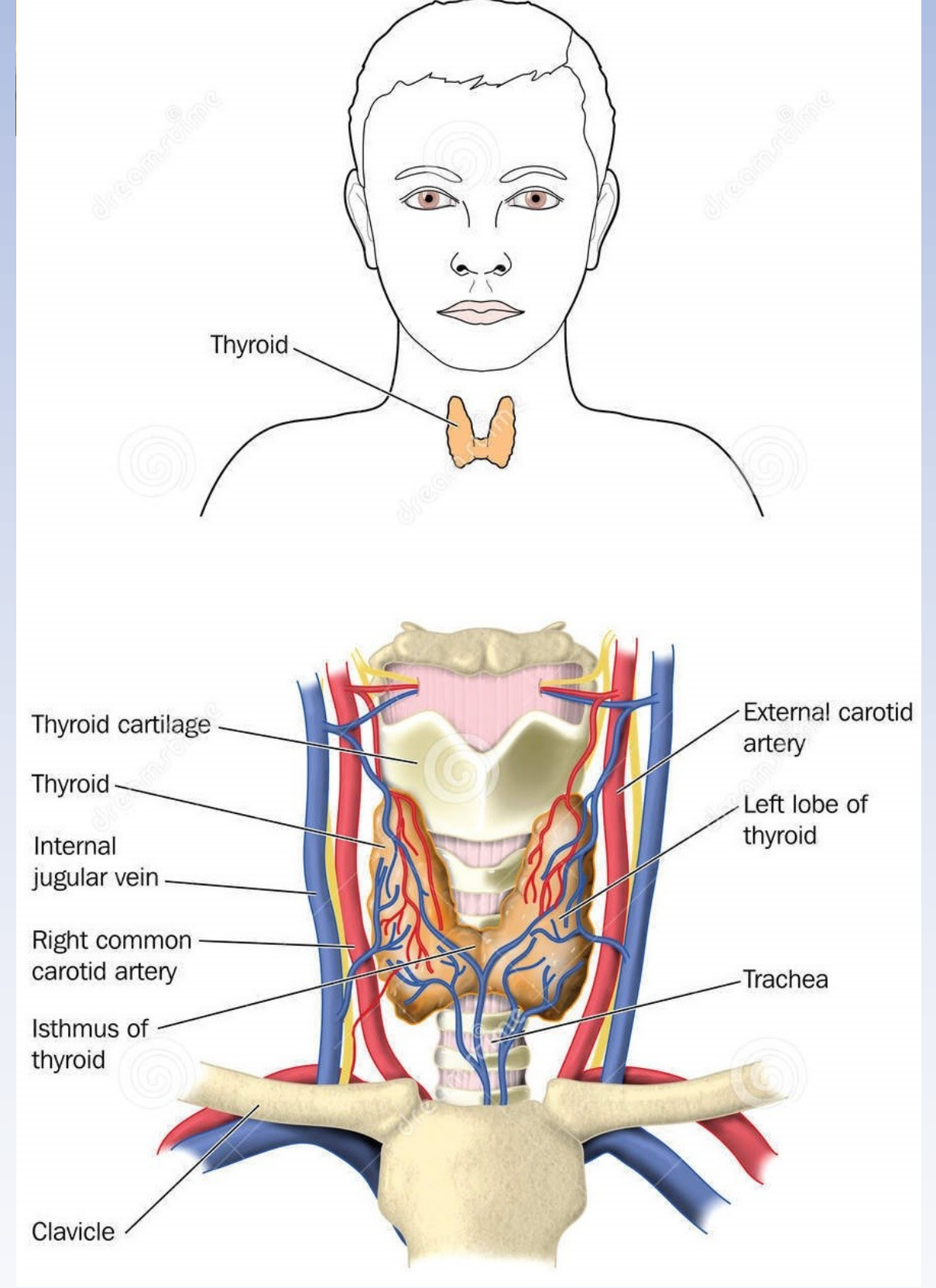
Object:

The main thrust of this study is voice quality after total thyroidectomy or isthmolobectomy due to thyroid dysfunction, followed or not by radiation treatment. This type of intervention generally perturbs the speech production system and often leads to degradation of voice quality, permanently or temporarily. This study intends to follow a cohort of patients who have undergone thyroid gland surgery, and presenting problems related to mobility of the vocal folds. The originality of the study is the use of an identical experimental protocol for a population of patients after removal of the thyroid gland.



Methode:

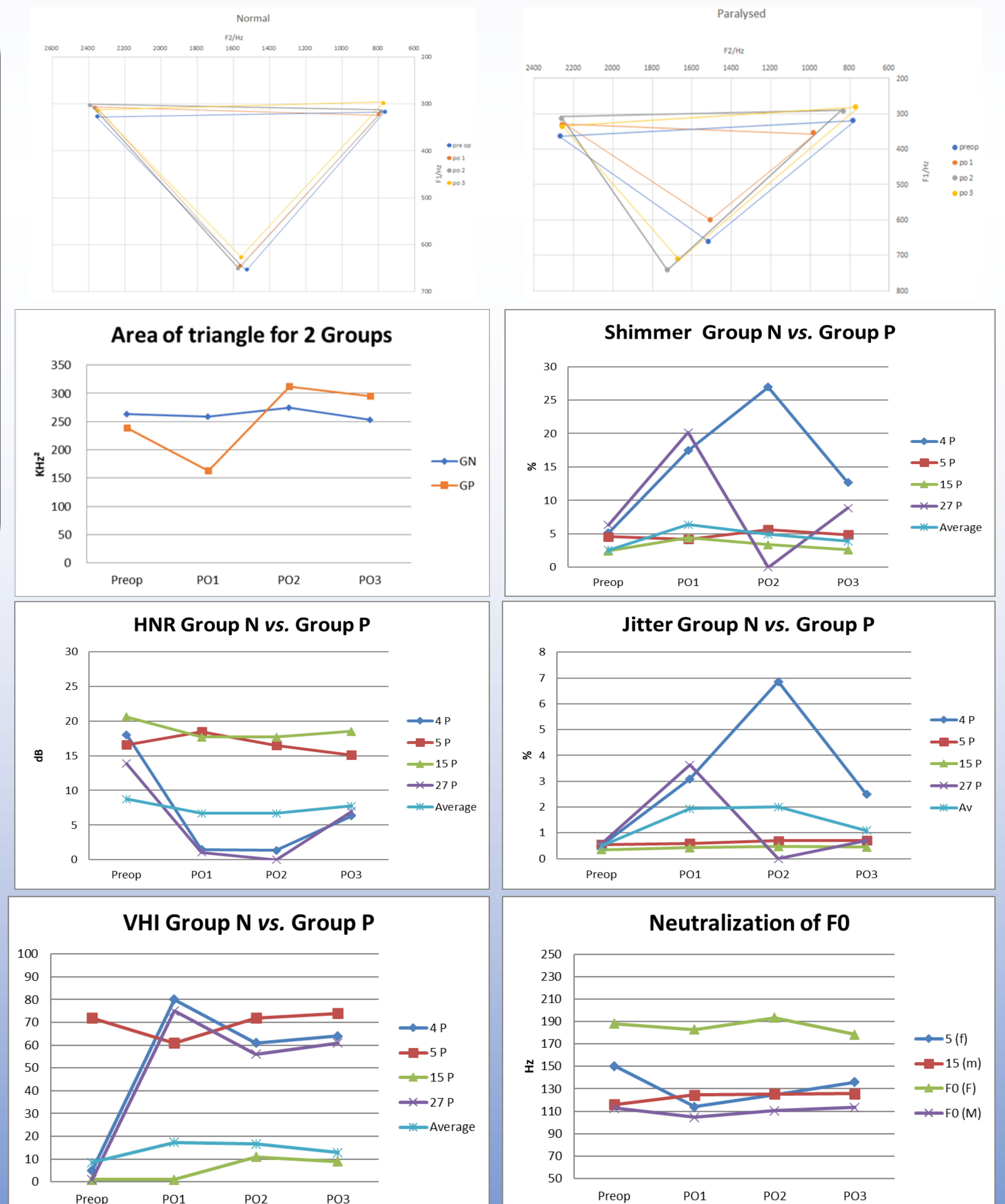
- Patients:**
- Group P with subgroups
 - Group N
- Measures:**
- Aerodynamic (EVA2): Oral airflow (Oaf)
 - Acoustic: Jitter, Shimmer, HNR, F1, F2
- Corpus:**
- Vowel /i/, /a/, /u/



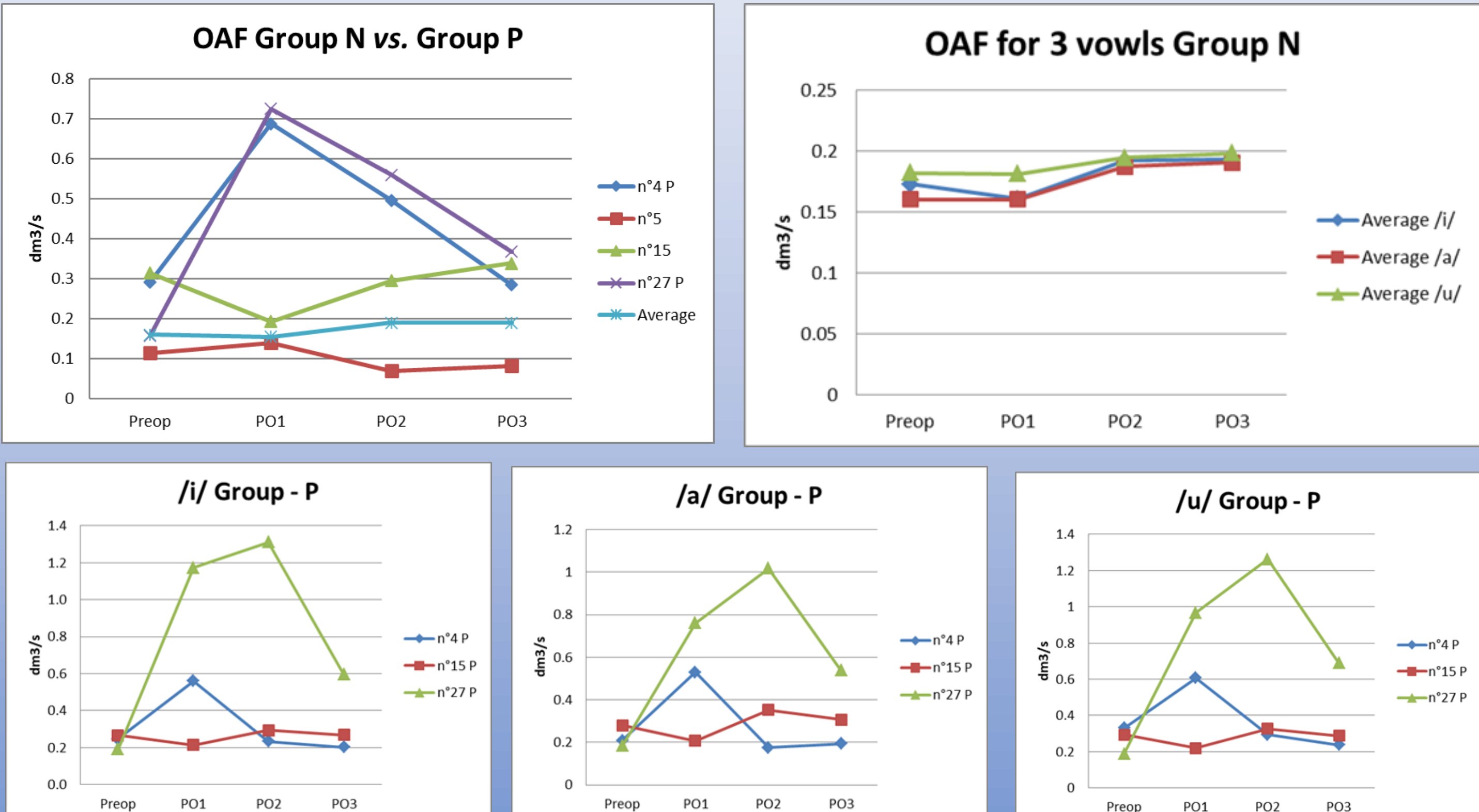
Hypotheses:

- Vocal efficiency would be affected after surgery. Phonation would require a higher consumption of oral air flow (OAF) than before the operation. Thus, increase of OAF in group P patients would be much more remarkable than in group N patients.
- Irregular activity in the larynx would perturb parameters in the acoustic signal. Group P patients would show more noticeably signal perturbations than group N patients.
- Irregular activities in the larynx would create instability in the laryngeal source which would cause reduction and /or deformation of vowel area space.s This phenomenon would be more visible in group P.
- Tme should allow patients in Group N to quickly attain values obtained preoperatively. For patients in Group P, this recovery will be slower and should be accompanied by speech therapy.

Acoustic results:



Aerodynamic results:



Conclusions:

Voice efficiency was affected after surgery because phonation required higher consumption of OAF than before the operation. Increase in OAF in patients of group P is much more remarkable than that in patients of Group N.

Irregular activity in the larynx perturbs acoustic parameters. The case of Group P patients presents more deterioration than that of Group N patients.

Vocalic space reduction did occur This phenomenon is more significantly present in Group P. F0 is perturbed with tendencies for neutralisation of contrast between female voices and male voices in Group N, and a real convergence of the F0 data of patients with typical symptoms in Group P .

Subjective (VHI) results show large deviations from data observed during the postoperative ENT examination, indicating that the self-assessment results are not always reliable. Indeed, some patients tend to overestimate the degradation of their voice quality.

