

**Background:**

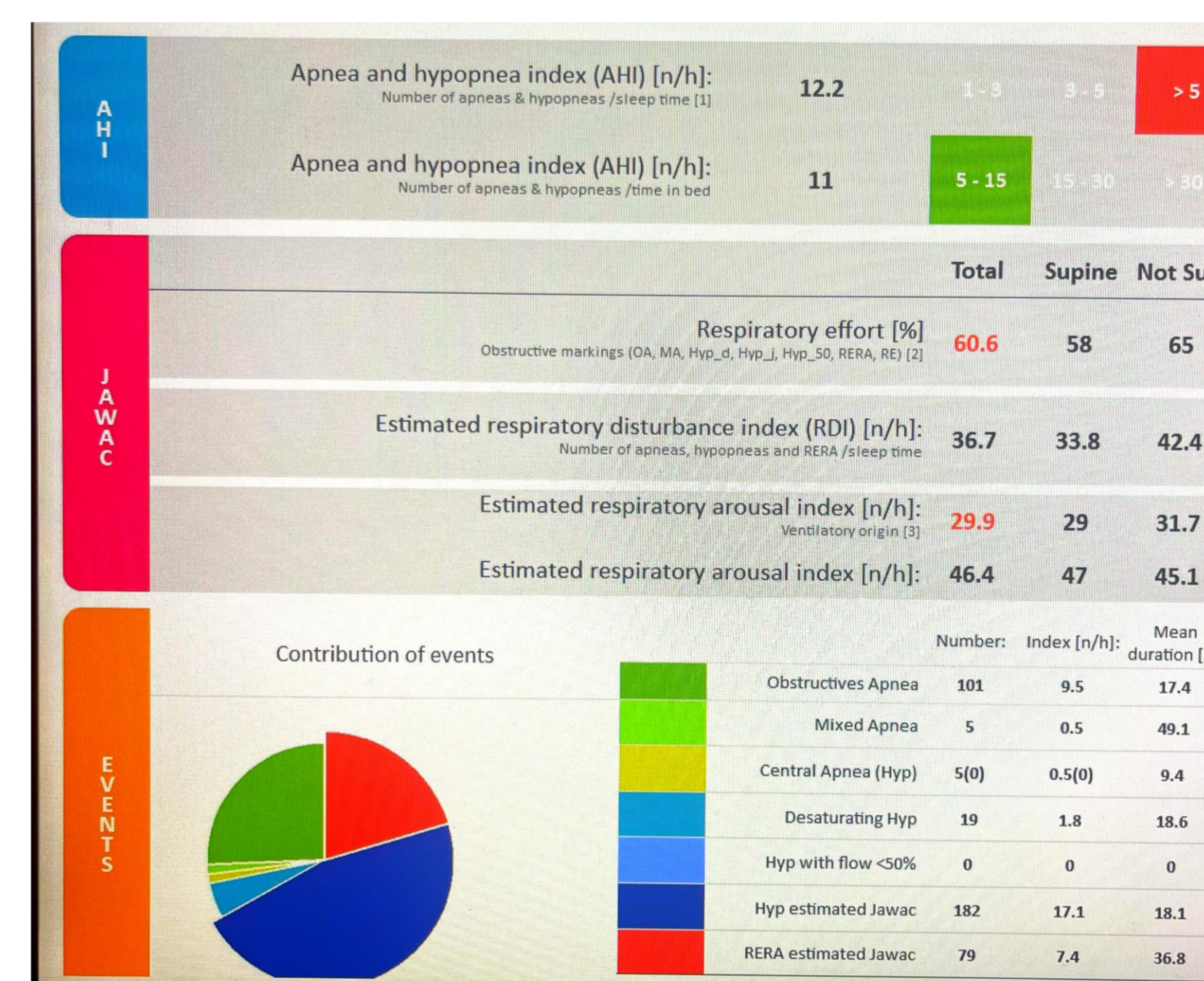
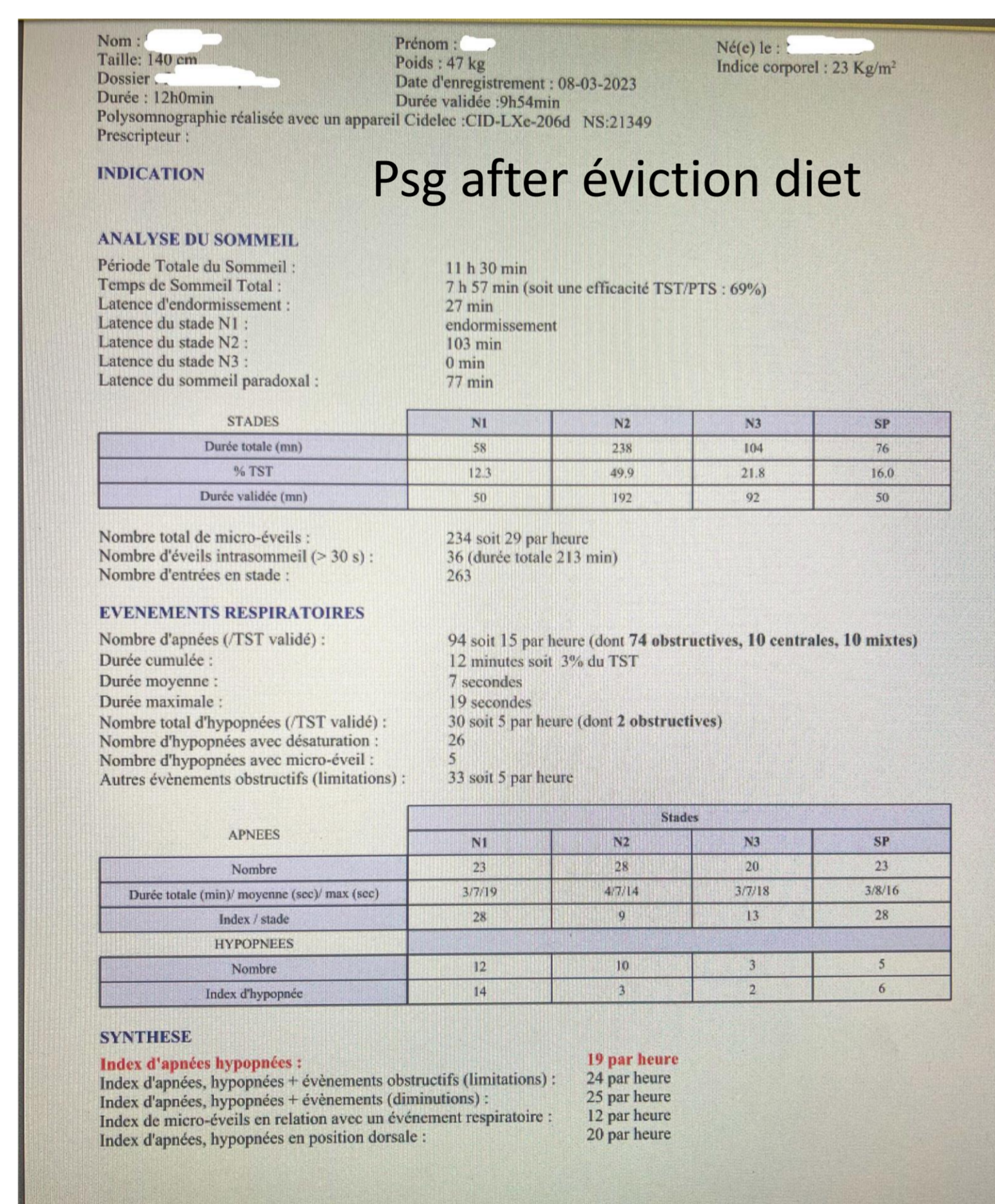
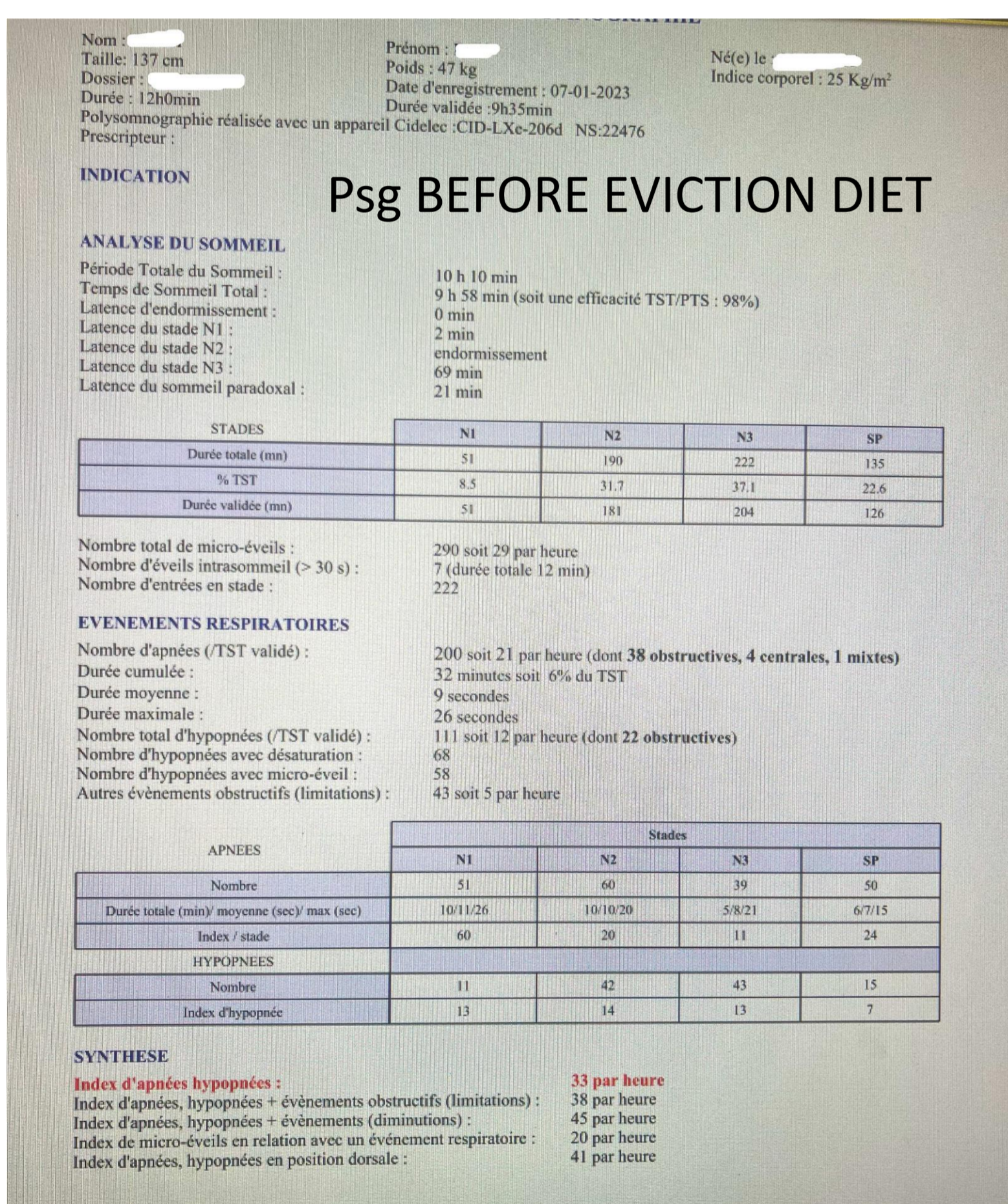
It is not clear which is the pathophysiological mechanism implicated in the evolution of Obstructive Sleep Apnoea (OSA)-asthma associated and if non-IgE mediated allergies and alimentation could be incriminated to sleep disorders.

**Methods:**

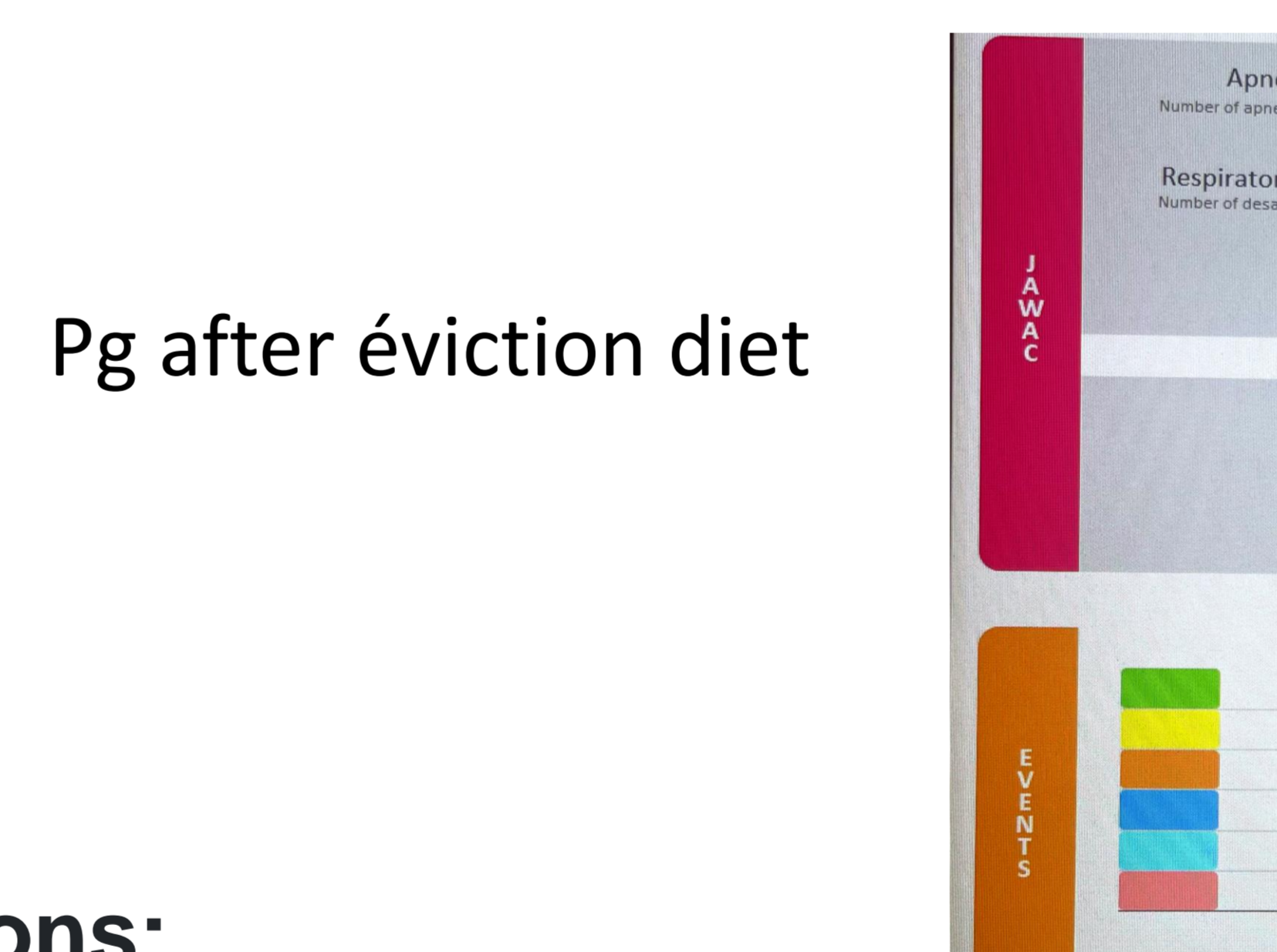
We effectuated allergy exploration and PSG, before and after specific eviction diet (ED), in 6 children 5–7 years old with non-IgE mediated allergies only (no respiratory allergies) who suffered severe sleep disorders and obesity/asthma/hyperactivity/behaviour problems. A 7-year-old obese girl who already had a partial adenotonsillectomy (AT) with partial efficacy was addressed by the ENT surgeon. She has been severely snoring since the early childhood.

**Results:**

6/6 children suffered severe sleep fragmentation, OSA and non-IgE mediated allergies to milk, wheat, soy. 5/6 children followed a two-month specific ED and presented a significant clinical and PSG amelioration. 3/6 children continued to consume industrialized products with increased saturated fat omega 6: omega 3 ratios and did not initially present an amelioration. 2 out of these 3 progressively ameliorated only when they avoided industrialized products. PSG for the 7-year-old obese child who already had an AT: Apnoea Hypopnea Index (AHI):33/h, Oxygen Desaturation Index (ODI):22/h, Micro-arousals Index(MAI): 29/h, Number of intra-sleep arousals (ISAR): 7 (Total duration:12 minutes (min)). Respiratory Effort(RE) during sleep: 60.6%, Estimated respiratory arousal index (ventilatory origin): 29.9n/h. Three weeks after the onset of the ED, the child stopped snoring. After the 2-month ED, she seemed to have less edema on her face, as she had lost weight, she looked “brighter” on the face. PSG after the ED confirmed the clinical amelioration: (AHI: 19/h).



Pg before éviction diet



Pg after éviction diet

**Conclusions:**

Allergy early diagnosis and treatment should be a priority in preschool children to establish public health policies to avoid sleep disorders, asthma, hyperactivity, behaviour problems and obesity. An alimentation with increased trans-fat and omega 6: omega 3 ratios could increase LT and adenoid tissues where LT receptors are abundant, thus favouring OSA-asthma associated and asthma. An alimentation which disturbs sleep of children and favours stress pathways should be avoided. Healthy alimentation with a balanced fat ratio is of paramount importance to avoid Th1 inflammation, the burst of the inflammatory diseases and the later onset of Th2 inflammation.

**References**

1. Kefala K LF, Linglart A, Guerin P. Persistently increased respiratory effort during sleep(RE) in children with obstructive sleep apnea(OSA) is indicative of allergy(A)/asthma, obesity risk and inadequate treatment. *European Respiratory Journal* 2021;58(PA3083)(suppl 65)doi:10.1183/13993003.congress-2021.PA3083
2. K Kefala FL, P Guerin. Respiratory (RA) & Non-IgE(NIgE) allergies both increase Respiratory Effort(RE) during sleep, implicating a common pathophysiology mechanism in Obstructive Sleep Apnoea(OSA)asthma associated. Asthma treatment (AT) decrease Apnoea Hypopnea Index(AHI). *European Respiratory Journal* 2022;60(3717)(66)0903-1936. doi:10.1183/13993003.congress-2022.3717

**Acknowledgments**

To the patients and their parents

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