Bariatric surgery, sleep apnea and pulmonary hypertension

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Background:

Prevalence of obstructive sleep apnea syndrome (OSAS) is high (up to 70%) in bariatric population¹. OSAS is described as a risk factor of group 3 pulmonary hypertension (PH)². No guidelines are available for preoperative PH detection in patients with OSAS. Our study assesses the prevalence of PH in this setting and the potential benefit of PH systematic screening by trans-thoracic cardiac ultrasound before bariatric surgery.

Materials and Methods:

We have conducted a retrospective study over a period of 13 months in consecutive patients who underwent bariatric surgery in our institution. Preoperative screening for OSAS was performed routinely by polysomnography. A trans-thoracic cardiac ultrasound was performed when severe OSAS was detected or in the presence of suggestive factors of associated cardiac disease (arterial hypertension, diabetes, chronic kidney failure or heart murmur on examination). Ultrasound screening of PH was based on 2015-ERS recommendations by analysing the tricuspid regurgitation velocity peak and searching for indirect signs of right heart failure³.

Results and Discussion:

During the study period, 419 patients underwent bariatric surgery and 245 patients had a preoperative trans-thoracic cardiac ultrasound : 197 were performed in this setting of severe OSAS

and 48 for the other previously cited reasons. Only 7 suspected cases of PH were detected with intermediate probability grades. Among these 7 cases, 6 were associated with severe OSAS and one associated with moderate OSAS. None of these 7 patients showed any clinical sign justifying a right catheterization examination or a specific anaesthetic management. These 7 patients did not experience any perioperative anaesthetic or surgical complications.

Polysomnography	n= 419 (100%)
Severe OSAS	203 (48%)
Moderate and mild OSAS	150 (36%)
No OSAS	66 (16%)

Population	n = 419 (100%)
Performed TTE	245 (58%)
Suspected case of PH	7 (2%)

Conclusion:

PH prevalence appeared to be low whether or not severe OSAS was present in this bariatric surgery population. Anaesthetic management was not modified and perioperative morbidity was not increased in our patients when PH was detected. In this context, carrying out a systematic preoperative screening of PH by trans-thoracic cardiac ultrasound may not be useful.

1 Minai et al. Frequency and impact of pulmonary hypertension in patients with obstructive sleep apnea syndrome. AJC 2009
2 Simonneau et al. Updated clinical classification of pulmonary hypertension. JACC 2013
3 Galiè et al. ESC/ERS Guidelines for the diagnosis and treatment of pulmonary hypertension. Eur Respir J 2015