

Aspiration should be sterile, light and done with care. It should be brief, paying special attention to the hemodynamic response and the anesthetic state of the patient, always withdrawing the catheter when the aspiration is completed.

We conclude that, when in lung resections the surgeon requests that the bilateral ventilation be re-established, he/she should state whether the bronchial suture is going to be done in order to avoid that devices in the airway become trapped in the stump staples (bronchial blockers, left double lumen tube in a left pneumonectomy, aspiration catheters). Nevertheless, if nothing is said, then the anesthesiologist should ask.

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## Alternatives to Indicating Roflumilast and the Chronic Obstructive Pulmonary Disease Classification\*

### *Alternativas para la indicación de roflumilast y la clasificación de enfermedad pulmonar obstructiva crónica*

Dear Editor:

The current indication for roflumilast should be clarified. As commented in previous publications,<sup>1</sup> the different biological mechanisms by which roflumilast works modify the simple vision of a linear anti-inflammatory effect. Roflumilast has an intrinsic inhibitor effect on phosphodiesterase type 4 (PDE4) that gives it an anticholinergic bronchodilator capacity, which is increased with the use of long-acting anticholinergics (LAMA). A recent meta-analysis confirms that this treatment group is the most effective.<sup>2</sup> Furthermore, the alteration of PDE4 produces a myriad of effects that overlap with the extrapulmonary manifestations of chronic obstructive pulmonary disease (COPD): anemia, sarcopenia, osteopenia, depression, asthenia, vascular risk and arrhythmias, etc.<sup>3</sup> Of these, the only one to have sparked any interest has been the inhibited inflammation of the TNF-alpha pathway, but only partially. The suppression that it exerts on innate immunity, associated with the capacity to inhibit the recruitment of neutrophils, can favor the appearance of infections, a paradoxical effect that is well known by specialists in systemic diseases who use biological therapy. In fact, other phosphodiesterase inhibitors have been used in rheumatoid arthritis, psoriasis, and intestinal inflammatory disease. All these elements have not been evaluated in assays with sufficient duration in order to identify risk or reevaluate the efficacy in chronic patients with exacerbations from infections and who are usually immunosuppressed due to corticosteroids.

As roflumilast widens the concept of COPD, this clarification of the drug equally modifies the vision of the current clinical types defined by the Spanish COPD Guidelines (GESEPOC). If the inflammation seems to be the link between the airway affectation, alveolar damage in emphysema, the PDE4 effect, comorbidities in COPD, and the response to roflumilast, it would be interesting to

again suggest the autoimmunity pathway. For some time, there has been much interest in the autoimmune pathogenesis of COPD, to the point that it has been considered an autoimmune disease that is either triggered or accelerated by smoking. Recently, high levels of antibodies have been demonstrated in extensive cohorts,<sup>4,5</sup> even in close correlation with the evolution of expiratory flow in the first second (FEV<sub>1</sub>) and low weight. In addition, autoimmunity would justify the existence of non-smokers with COPD, as demonstrated in another study.<sup>6</sup>

Therefore, it may be speculated that a COPD subgroup with systemic comorbidity and frequent exacerbations without clear etiology can be explained by autoimmunity, and the response to roflumilast as an anti-TNF medication is expected. In this context, possible infectious complications would have to be monitored. It seems necessary to aim new research toward this field and propose once again a reclassification of COPD beyond the classical types that do not fully explain the complexity of this syndrome.

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