LETTER TO THE EDITOR

Concomitant medications and obstructive sleep apnoea

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We read with great interest the excellent review from Jullian-Desayes and colleagues [1] about the impact of concomitant medications on obstructive sleep apnoea (OSA). We agree with the authors about the facts that this common clinical condition involves several pathophysiological mechanisms and that little is known about the putative role of drugs on OSA.

Thus, our team began a series of studies investigating drugs associated with OSA using large pharmacovigilance databases.

In a first study performed in the French Pharmacovigilance database [2], we found that spontaneous registered reports of OSA associated with drugs were very rare (only six case reports, i.e. around 1/100 000 notifications) and that main drugs involved were psychotropics (benzodiazepines, neuroleptics, sodium oxybate) and opioids [3].

Due to the low number of case reports found in the French Pharmacovigilance database, we decided to perform a second study in Vigibase, the World Health Organization Global Individual Case Safety Report (ICSR) database including >14 million reports of adverse drug reactions (ADRs) [4]. A putative signal of drug-related OSA was estimated using the case–noncase method [5], with cases being OSA and noncases all other recorded ADRs. From 1978 to 2015, 3325 ADRs including the word OSA were registered (0.05% of the database), which were *serious* in around 82% of cases. The case–noncase study found two kinds of results: first, an association between OSA and exposition to some drugs for which the mechanism of action can clearly explain the signal: sodium oxybate, rofecoxib, quetiapine and clozapine for individual drugs and coxibs,

antipsychotics, benzodiazepines and opium alkaloids for drug classes. Second, other signals were described with other drugs: alendronic acid, digoxin or esomeprazole for individual drugs and bisphosphonates, interferons, proton-pump inhibitors or thiazolidinediones for drug classes. For these last drugs, we were unable to propose a definite mechanism of action explaining the OSA's signal [6]. Further studies are necessary to confirm these unexpected results, since the case–noncase method can occasionally generate false positive signals [5].

These two pharmacovigilance studies offer new data from real conditions of life completing the results of randomized trials. Use of pharmacovigilance databases allow to suggest interesting hypotheses about drug-induced diseases or symptoms.

Competing Interests

There are no competing interests to declare.

The work was performed during the University research time of the authors.

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