EDITORIAL

ROAD SAFETY, ASTHMA AND RHINITIS: REFLECTIONS

A. Pereira-Vega.

Hospital Juan Ramón Jiménez, Huelva.

Few communications such as the one presented at the 2017 Neumosur Congress on "Road safety, asthma and rhinitis"[1] have had such a media impact. This was understandable, as it was a brilliant presentation on a particularly important topic: traffic accidents and their possible consequences, bronchial asthma and rhinitis, common illnesses and the basis of our specialty.

Traffic accidents are one of the most important causes of morbidity and mortality, mainly in developed countries[2] and developing countries[3].

Several factors have been attributed to the road accident rate. With regard to of the age of drivers, both young people[4] (in relation to speeding, mobile phone use or alcohol or drug abuse), and those over 65 years old[5] (for loss of reflexes or greater use of medication, such as benzodiazepines, opiates or tramadol) seem to have a significantly higher risk of traffic accidents. Various illnesses have been linked to traffic accidents, such as those that cause defects in vision or hearing, and cardiological (arrhythmias or ischemic heart disease), metabolic (hypoglycemia in diabetics), neurological (epilepsy) or psychiatric alterations. Among respiratory diseases, Obstructive Sleep Apnea Syndrome (OSAS) is noteworthy[6, 7]. There are scarce studies that refer to other respiratory pathologies, including rhinitis[8] or bronchial asthma[9]. Similarly, different medication[10] can make driving difficult by altering vision or hearing and/or intellectual or motor skills; deteriorating the state of alertness; causing sedation, a disinhibiting affect, movement coordination and balance disorders; increasing the risk with the use of alcohol and drugs, among which cannabis has an advantage. Some noted medications are benzodiazepines[5], opiates, antihistamines[11, 12] and tramadol[5], among others. Symptoms such as fatigue[13, 14] have also been linked to driving deterioration and traffic accidents.

As Gregorio Soto *et al.*[15] said in an article presented in this journal, as a result of the aforementioned communication[1]: "*our study shows a higher prevalence of traffic accidents in patients with asthma and rhinitis than in a healthy population, and this accident rate is higher depending on the severity of the pathology*". This idea is based on the results of a descriptive study from an investigation with acceptable levels of reliability, in which 424 healthy people and 185 patients with asthma/rhinitis were interviewed. It was found that said patients had a significantly higher record of driving accidents than the healthy population. This data could be explained by apparently evident causes: symptoms that may cause lack of attention (coughing fits[16], sneezing…) and the use of medication for these illnesses which may decrease attention (antihistamines[11,12]).

In my opinion, this assertion is relevant, as long as it is well founded.

The first time I had the opportunity to read it, it caused me some amazement, even disbelief. With asthma and rhinitis being as common as they are[17], asthma

Received: November 20, 2017. Accepted: November 27, 2017.

Antonio Pereira-Vega
apv01h@gmail.com

not being well controlled[18], and the frequent use of antihistamines[5]… To what extent may suffering from these illnesses be a road risk for pedestrians, for the patients themselves and for the rest of the drivers?

We're talking about things that may have consequences. A few years ago, Terán-Santos et al.[6] showed that Obstructive Sleep Apnea Syndrome (OSAS) could increase the risk of traffic accidents. The authors conducted a study of cases (102 drivers that have had a traffic accident) and controls (152 subjects) in which they carried out an OSAS screening. Comparing patients without OSAS and with OSAS (AHI>10), they found that the latter had an odds ratio (OR) of 6.3 with a 95% CI of 2.4 to 16.2 (0.001) for having traffic accidents. In this way, today it's thought that if sleep apnea syndrome isn't diagnosed and treated[7], the risks of having a traffic accident are clearly increased. As a consequence, patients with Sleep Apnea-Hypopnea Syndrome (SAHS) are now required to present a report from a competent pulmonologist when renewing their driver's license, which shows that the treatment is working and effective[19].

Perhaps we're not talking about similar risks, but we must reflect on this. In this regard, I would like to comment that it would be interesting for the authors of the article in question[15] to analyze their odds ratio (OR), a very illustrative and easy parameter to complete.

It seems like a brilliant article which establishes a clear association between asthma, rhinitis and traffic accidents in its conclusion. In terms of the consequences it could have, I think that this subject requires more in-depth exploration to avoid any type of bias, such as confounders (alcohol consumption, visual or auditory alterations, BMI and age of drivers, previous accident history, medication and associated illnesses, among others) or the interrelation of casual factors[20], being very strict about the inclusion/exclusion criteria in these studies. It would be interesting to carry out new research that supports these initial results.

The research must try to clarify or demonstrate ideas, while the work of other bodies is to analyze the consequences of the research.

BIBLIOGRAPHY

1. De La Cruz NP, Soto JG, Rojas J et al. Seguridad vial en asma y rinitis. Rev Esp Patol Torac 2017; 29 (1): 5-92. Página 29.
2. Kassebaum, Nicholas J; Arora et al. Global, regional, and national disability-adjusted life-years (DALYs) for 315 diseases and injuries and healthy life expectancy (HALE), 1990–2015: a systematic analysis for the Global Burden of Disease Study 2015. Lancet. 2016; 388 (10053):1603-1658.
3. Jiang, Baoguo; Liang et al. Review: Transport and public health in China: the road to a healthy future. Lancet 2017; 390 (10104): 1781-1791.
4. Scott-Parker, Bridie; Oviedo-Trespalacios O. Young driver risky behaviour and predictors of crash risk in Australia, New Zealand and Colombia: Same but different? Accident Analysis and Prevention 2017; 99 Part A: 30-38 Part A.
5. Rudisill, Toni M.; Zhu et al. Medication use and the risk of motor vehicle collision in West Virginia drivers 65 years of age and older: a case crossover study. BMC Research Notes 2016; 9: 1-11.
6. Terán J, Jiménez-Gómez A, Cordero-Guevara J and The Cooperative Group Burgos-Santander. The association between Sleep Apnea and the risk of traffic accidents. N Engl J Med 1999; 340: 847-851.
7. Grote, Ludger; Karimi et al. Sleep Apnea Related Risk of Motor Vehicle Accidents is Reduced by Continuous Positive Airway Pressure: Swedish Traffic Accident Registry Data. SLEEP 2015; 38 (3): 341-349.
8. Demoly, Pascal, Maigret et al. Allergic rhinitis increases the risk of driving accidents. Journal of Allergy and Clinical Immunology 2017; 140 (2): 614-616.
9. Kanaan A, Huertas P, Santiago A et al. Incidence of different health factors and their influence on traffic accidents in the province of Madrid, Spain. Leg Med (Tokyo) 2009 Apr; 11 Suppl 1: S333-7.
10. Lemaire-Hurtel AS, Goullé, JP, Alvarez JC et al. Mise au point: Médicaments et conduite automobile / Drug use and driving (English). La Presse Médicale 2015; 44 (10): 1055-1063.
11. Van der Sluiszen N, Vermeeren A. Jongen S et al. On-the-road driving performance after use of the antihistamines mequitazine and l-mequitazine, alone and with alcohol. Psychopharmacology 2016; 233 (18): 3461-3469.
12. Orriols L. Luxcey A, Contrand B et al. Road traffic crash risk associated with prescription of hydroxyzine and other sedating H1-antihistamines: A responsibility and case-crossover study. Accident Analysis and Prevention 2017; 106: 115-121.
13. Zhang G, Kelvin K.W, Zhang X et al. Traffic accidents involving fatigue driving and their extent of casualties Accident Analysis and Prevention 2016; 87: 34-42.
14. Smith AP. A UK survey of driving behaviour, fatigue, risk taking and road traffic accidents. BMJ Open 2016; 6 (8): 1-6, 6p.
15. Soto JG, Rojas Villegas J, Carmona R et al. Asma, rinitis y seguridad vial. Rev Esp Patol Torac (En prensa: Artículo pendiente de publicar) 2017/2018
16. Haffner HT, Graw M. Cough syncope as a cause of traffic accident. Blutalkohol 1990; 27 (2): 110-5.
17. Nueva Guía Española para el Manejo del Asma - GEMA 4.2. http://www.genasma,com. 2017.

18. 2017 GINA Report, Global Strategy for Asthma Management and Prevention. htpp://www.ginasthma.org
19. Kuhn E, Schwarz E, Bratton DJ et al. Sleep Disorders: Effects of CPAP and Mandibular Advancement Devices on Health-Related Quality of Life in OSA. A Systematic Review and Meta-analysis. Chest 2017; 151 (4): 786-794.
20. Kwon OH, Rhee W, Yoon Y. Application of classification algorithms for analysis of road safety risk factor dependencies. Accident Analysis and Prevention 2015; 75: 1-15