

Revista de

Toxicología

ÓRGANO OFICIAL DE LA ASOCIACIÓN ESPAÑOLA DE TOXICOLOGÍA

Volumen 39 Número 1 (2022)

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ASOCIACIÓN ESPAÑOLA DE TOXICOLOGÍA
Rev. Toxicol. 39 (1), 1-69(2022)
ISSN 0212-7113

necesario conocer no solo su toxicidad específica, si no también en qué alimentos está presente y en qué cantidades resulta tóxico para cada grupo de población. En este trabajo, se presenta una revisión bibliográfica que recoge las últimas actualizaciones de la toxicidad del metilmercurio, centrándose en las etapas donde puede resultar más peligroso exponerse a este metal pesado, así como en las recomendaciones que existen para evitar la exposición; con el fin de saber, si las recomendaciones actuales están en consonancia con los últimos estudios. Existen recomendaciones para población más sensible y otras para población general, tanto en cuanto a la ingesta del tipo de pescado como la cantidad. Sin embargo, estas recomendaciones deben de ser reevaluadas con el tiempo ya que la concentración de mercurio en agua puede variar. Diversos estudios sugieren que el aumento de la contaminación incrementa la acumulación de mercurio y que existen otros factores que afectan a la toxicidad. Si bien las recomendaciones actuales son seguras, pueden verse modificadas en los próximos años en nuevas recomendaciones.

Palabras clave: metilmercurio, pescado, toxicidad, contaminación, recomendaciones.

C 23) DRUG FACILITATED SEXUAL ASSAULT-CHEMICAL SUBMISSION

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The use of psychoactive substances for sexual assault has greatly increased. In recent studies carried out in Spain, alcohol is involved in 77% of cases of subjugation, BZDs in 36%, and illegal drugs in 29%. Burundanga or GHB do not appear in any case. These substances are more commonly used in Latin America, but there is no toxicological data to prove it. The practice of sexual crimes associated with drug use is called Drug-Facilitated Sexual Assault (DFSA), while 'Chemical Submission' (CS) is used to include all types of crimes related to this activity. The consequences of this practice include pregnancy, sexually transmitted infection and psychiatric symptoms, such as depression, drug abuse or post-traumatic stress disorder (PTSD). Several drugs considered DFSA will be mentioned and each mechanism of action involved will also be explained, in relation to all the symptomatic effects that can cause in the body. The social context regarding sexual assault by chemical submission and how to act in emergencies will be explained along with its clinical examination. In addition, this communication will address how these drugs used to facilitate sexual aggression are obtained, how they are activated at low doses to go unnoticed, their time of onset and duration of action to facilitate control over the victim, their symptoms, the route of administration to the victim in order to be discreet and hardly detectable by the victim, without taste, odour or colour and the disinhibition effects they produce.

Keywords: illegal drugs, Burundanga, GHB, Drug-Facilitated Sexual Assault, Chemical Submission.

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C 24) MONITORING IRON IN YOUNG SPANISH ADULTS' HAIR

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Madrid-Barcelona Km, 38.2, 28800 Alcalá de Henares, Madrid, Spain. Recent human studies have associated higher levels of iron (Fe) in hair with lower regional gray matter volume and cerebral blood flow in

young adults. We have studied the content of Fe in scalp hair from 37 volunteers (20–24 years-old; 28 female) from the Comunidad de Madrid (Spain), as Fe hair analysis would not be affected by rapid fluctuations due to its dietary intake. Fe was monitored by ICP-MS after appropriate removal of exogenous contamination using Triton X-100/bath sonication. The limit of detection was 555.26 ng/g. Fe hair concentrations were as follows (median and percentiles; ng/g): overall 5054 (4392.3, 5625.5), males 5202.1 (4415.4, 6171.2), females 4999 (4270.8, 5571.2). Presence of Fe in hair did not show dependence on sex perhaps attributed to the low participation, although male participants have shown slightly higher levels of this element in hair but without significance ($p=0.572$; Mann-Whitney U test). Our results agree with a study performed in 590 young Japanese adults (20.9 years), which also reported no effect of sex in the hair content of this mineral. These authors also detected a similar content of Fe to our population (4856.7 vs. 5054 ng/g), although they reported a higher range in Japanese hair (2668–16580 vs. 2960.9–8565.5 ng/g). A similar trend was observed when comparing the total Fe content detected in the Spanish hair when compared with other European populations, e.g. Sweden and Poland, which might suggest a lower Fe status in the Spanish participants that should be further investigated. The slightly higher content of Fe observed in the Spanish males' hair might be attributed to the consumption of iron-fortified cereals, eggs, fish and seafood, which was significantly higher in male participants in a dietary study performed by our group in 350 university students of the same age range in this Region.

Keywords: human hair, iron, exposure, Spanish population

C 25) POTENTIAL EFFECT OF SEX AND AREA OF RESIDENCE IN THE CONTENT OF LANTHANUM IN HAIR OF A HEALTHY GROUP OF SPANISH ADOLESCENTS

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The use of lanthanum (La) is increasing due to its multiple applications. A recent report has estimated that over 900 kg La/year is released into Europe's environment, fifty times higher than other toxic metals. Although the risks derived from chronic exposures to La are currently not well established, La nanoparticles can damage the hippocampus, contributing to the development of neurodegenerative diseases. We studied the exposure to La in a teenage population group living in Alcalá de Henares (Spain), and evaluated the effect of different factors including sex and area of residence. Scalp hair samples were collected from 97 adolescents (13–16 years-old; 68 girls), who were recruited following strict selection criteria, from four different areas of the city with different characteristics. La was analysed by ICP-MS after appropriate removal of exogenous contamination using Triton X-100/bath sonication. The limit of detection was 0.011 µg/g. Data was processed with the statistical package 'NADA' freely available in R, as La was detected only in 8.2% of the samples. Levels of La are provided as 95th percentiles and detected ranges (µg/g) for general 0.0123 (0.0115–0.0482), male 0.0160 (0.0118–0.0482) and female participants 0.0115 (0.0115–0.0425). Although the presence of La was not influenced by sex, the slightly higher range observed in male participants might be attributed to different studies that have suggested that men may be more sensitive to La than women. We were unable to study the effect of place of residence on the presence of La, but La was detected in teenagers living in the areas with higher traffic densities and industries, while it was not detected in any of the participants living in the areas with higher density of green spaces. The levels of La found were much lower than those reported in the literature for non-exposed and exposed adults, suggesting little environmental exposure.

Keywords: human hair, teenagers, lanthanum, exposure, Spanish teenagers.