1. Safety classification of herbal medicines used in pregnancy in a multinational study. Kennedy DA, Lupattelli A, Koren G, Nordeng H

BMC Complement Altern Med. 2016 Mar 15;16(1):102. doi: 10.1186/s12906-016-1079-z.

BACKGROUND: The use of herbal medicines for health prevention and ailments is an increasing trend worldwide. Women in pregnancy are no exception; the reported prevalence of herbal medicine use in pregnancy ranges from 1 to 60 %. Despite a common perception of safety, herbal medicines may have potent pharmacological actions, and historically, have been used for this reason. METHODS: A multinational, cross-sectional study on how women treat disease and pregnancy-related health ailments was conducted between October 2011 and February 2012 in Europe, North America, and Australia. This study's primary aim was to evaluate and classify the herbal medicines used according to their safety in pregnancy and, secondly, to investigate risk factors associated with the use of contraindicated herbal medicines during pregnancy. RESULTS: In total, 29.3 % of the women (n = 2673) reported the use of herbal medicines in pregnancy; of which we were able to identify 126 specific herbal medicines used by 2379 women (89.0 %). Twenty seven out of 126 herbal medicines were classified as contraindicated in pregnancy, and were used by 476 women (20.0%). Twenty-eight were classified as safe for use in pregnancy and used by the largest number of women (n = 1128, 47.4 %). The greatest number was classified as requiring caution in pregnancy; these sixty herbal medicines were used by 751 women (31.6 %). Maternal factors associated with the use of contraindicated herbal medicines in pregnancy were found to be working in the home, having a university education, not using folic acid, and consuming alcohol. Interestingly, the recommendation to take a contraindicated herbal medicine was three times more likely to be from a healthcare practitioner (HCP) than an informal source. CONCLUSION: Based on the current literature the majority of women in this study used an herbal medicine that was classified as safe for use in pregnancy. Women who reported taking a contraindicated herb were more likely to have been recommended it use by an HCP rather than informal source(s), indicating an urgent need for more education among HCPs. The paucity of human studies on herbal medicines safety in pregnancy stands in stark contrast to the widespread use of these products among pregnant women.

PMCID: PMC4793610
PMID: 26980526 [PubMed - in process]

2. Chronic Ayurvedic medicine use associated with major and fatal congenital abnormalities. Wong A, Dargan P, Koutsogiannis Z, Sokol J, Ramkrishna J, Greene SL.

Med J Aust. 2015 Dec 14;203(11):443-4.

PMID: 26654614 [PubMed - indexed for MEDLINE]

3. Thrombocytopenic Purpura Associated with Dietary Supplements Containing Citrus Flavonoids. Ghali A, Bourneau-Martin D, Dopter A, Lainé-Cessac P, Belizna C, Urbanski G, Lavigne C.

Therapie. 2015 Nov-Dec;70(6):555-6. doi: 10.2515/therapie/2015050. Epub 2015 Aug 4.

We report a case of thrombocytopenic purpura associated with the intake of two dietary supplements containing mainly citrus flavonoids. This is the first case to be notified to the French Agency for Food, Environmental and Occupational Health Safety (ANSES). It addresses the importance of an accurate medication history interview for each patient.

PMID: 26242500 [PubMed - indexed for MEDLINE]

4. Adverse drug reactions and organ damage: The liver. Licata A.

Eur J Intern Med. 2016 Mar;28:9-16. doi: 10.1016/j.ejim.2015.12.017. Epub 2016 Jan 28.

Drug-induced liver injury (DILI) is among the most challenging acute or chronic liver conditions to be handled by physicians. Despite its low incidence in the general population, DILI is a frequent cause of acute liver failure. As such, the possibility of DILI should be considered in all patients who present with acute liver damage, independent of any known pre-existing liver disease. DILI can be classified as intrinsic/dose-dependent (e.g., acetaminophen toxicity) or idiosyncratic/dose-independent, with the latter form being relatively uncommon. Amoxicillin-clavulanate is the antimicrobial that is most frequently associated with idiosyncratic DILI. Large, ongoing, prospective studies in western countries have reported other drugs associated with DILI, including nonsteroidal anti-inflammatory drugs, statins, and herbal and dietary supplements. An important safety issue, DILI is one of the most frequently cited reasons for cessation of drug development during or after preclinical studies and for withdrawal of a drug from the market. This review summarizes the epidemiology, risk factors, commonly implicated drugs, clinical features, and diagnosis of DILI, with the aim of aiding physicians in the management of this debated problem. Old and new biomarkers for DILI and pharmacogenetic studies are also described.

PMID: 26827101 [PubMed - in process]

5. Herbal Hepatotoxicity: Clinical Characteristics and Listing Compilation. Frenzel C, Teschke R.

Int J Mol Sci. 2016 Apr 27;17(5). pii: E588.

Herb induced liver injury (HILI) and drug induced liver injury (DILI) share the common characteristic of chemical compounds as their causative agents, which were either produced by the plant or synthetic processes. Both, natural and synthetic chemicals are foreign products to the body and need metabolic degradation to be eliminated. During this process, hepatotoxic metabolites may be generated causing liver injury in susceptible patients. There is uncertainty, whether risk factors such as high lipophilicity or high daily and cumulative doses play a pathogenetic role for HILI, as these are under discussion for DILI. It is also often unclear, whether a HILI case has an idiosyncratic or an intrinsic background. Treatment with herbs of Western medicine or traditional Chinese medicine (TCM) rarely causes elevated liver tests (LT). However, HILI can develop to acute liver failure requiring liver transplantation in single cases. HILI is a diagnosis of exclusion, because clinical features of HILI are not specific as they are also found in many other liver diseases unrelated to herbal use. In strikingly increased liver tests signifying severe liver injury, herbal use has to be stopped. To establish HILI as the cause of liver damage, RUCAM (Roussel Uclaf Causality Assessment Method) is a useful tool. Diagnostic problems may emerge when alternative causes were not carefully excluded and the correct therapy is withheld. Future strategies should focus on RUCAM based causality assessment in suspected HILI cases and more regulatory efforts to provide all herbal medicines and herbal dietary supplements used as medicine with strict regulatory surveillance, considering them as herbal drugs and ascertaining an appropriate risk benefit balance.

PMID: 27128912 [PubMed - as supplied by publisher]

6. Drug-Induced Liver Injury: Pattern Recognition and Future Directions. Haque T, Sasatomi E, Hayashi PH.

Gut Liver. 2016 Jan;10(1):27-36. doi: 10.5009/gnl15114.

Drug-induced liver injury (DILI) remains a significant clinical challenge and is the leading cause of acute liver failure in most countries. An aging population that uses more medications, a constant influx of newly developed drugs and a growing risk from unfamiliar herbal and dietary supplements will make DILI an increasing part of clinical practice. Currently, the most effective strategy for disease management is rapid identification, withholding the inciting agents, supportive care and having a firm understanding of the expected natural history. There are resources available to aid the clinician, including a new online "textbook" as well as causality assessment tools, but a heightened awareness of risk and the disease's

varying phenotypes and good history-taking remain cornerstones to diagnosis. Looking ahead, growing registries of cases, pharmacoepidemiology studies and translational research into the mechanisms of injury may produce better diagnostic tools, markers for risk and disease, and prevention and therapeutics.

PMCID: PMC4694731
PMID: 26696029 [PubMed - in process]

7. Hepatotoxicity by Dietary Supplements: A Tabular Listing and Clinical Characteristics. García-Cortés M, Robles-Díaz M, Ortega-Alonso A, Medina-Caliz I, Andrade RJ.

Int J Mol Sci. 2016 Apr 9;17(4). pii: E537. doi: 10.3390/ijms17040537.

Dietary supplements (DS) are extensively consumed worldwide despite unproven efficacy. The true incidence of DS-induced liver injury (DSILI) is unknown but is probably under-diagnosed due to the general belief of safety of these products. Reported cases of herbals and DS-induced liver injury are increasing worldwide. The aim of this manuscript is to report a tabular listing with a description of DS associated with hepatotoxicity as well as review the phenotype and severity of DSILI. Natural remedies related to hepatotoxicity can be divided into herbal product-induced liver injury and DS-induced liver injury. In this article, we describe different DS associated with liver injury, some of them manufactured DS containing several ingredients (Herbalife™ products, Hydroxycut™, LipoKinetix™, UCP-1 and OxyELITE™) while others have a single ingredient (green tea extract, linoleic acid, usnic acid, 1,3-Dimethylamylamine, vitamin A, Garcinia cambogia and ma huang). Additional DS containing some of the aforementioned ingredients implicated in liver injury are also covered. We have also included illicit androgenic anabolic steroids for bodybuilding in this work, as they are frequently sold under the denomination of DS despite being conventional drugs.

PMID: 27070596 [PubMed - in process]

8. Clinical Features of Drug-induced Liver Injury According to Etiology. Lee BM, Lee WC, Jang JY, Ahn P, Kim JN, Jeong SW, Park EJ, Lee SH, Kim SG, Cha SW, Kim YS, Cho YD, Kim HS, Kim BS.

J Korean Med Sci. 2015 Dec;30(12):1815-20. doi: 10.3346/jkms.2015.30.12.1815. Epub 2015 Nov 30.

Drug-induced liver injury (DILI) is an increasingly common cause of acute hepatitis. We examined clinical features and types of liver injury of 65 affected patients who underwent liver biopsy according DILI etiology. The major causes of DILI were the use of herbal medications (43.2%), prescribed medications (21.6%), and traditional therapeutic preparations and dietary supplements (35%). DILI from herbal medications, traditional therapeutic preparations, and dietary supplements was associated with higher elevations in aspartate aminotransferase (AST) and alanine aminotransferase (ALT) levels than was DILI from prescription medications. The types of liver injury based on the R ratio were hepatocellular (67.7%), mixed (10.8%), and cholestatic (21.5%). Herbal medications and traditional therapeutic preparations were more commonly associated with hepatocellular liver injury than were prescription medications (P = 0.002). Herbal medications and traditional therapeutic preparations induce more hepatocellular DILI and increased elevations in AST and ALT than prescribed medications.

PMCID: PMC4689826
PMID: 26713057 [PubMed - in process]

9. Toxic hepatitis due to a food supplement: "Natural" is no synonym for “harmless". Couturier FJ, Colemont LJ, Fierens H, Verhoeven VM.

Clin Res Hepatol Gastroenterol. 2016 Mar 9. pii: S2210-7401(16)00030-9. doi:10.1016/j.clinre 2015.12.016. [Epub ahead of print]

BACKGROUND/AIMS: Herbal products are increasingly used in modern medicine for numerous indications. They are not considered as drugs and thus often not linked to side effects. MATERIAL: A 77-year-old patient presented with silent icterus and biochemical evidence of hepatocellular damage. Because of dyslipidaemia, he was recently prescribed Controchol(®), a food supplement containing red yeast and green tea extracts.RESULTS: Liver biopsy showed necro-inflammatory destruction of liver parenchym, collapse of reticulin matrix, cholestasis and gall duct damage, compatible with toxic hepatitis. After discontinuation of Controchol(®), there was a gradual normalisation of the liver function tests. Liver injury is a known side effect of both red yeast and green tea extracts. After exclusion of other causes, we therefore concluded our patient had suffered from Controchol(®)-induced toxic hepatitis. CONCLUSION: Products that are conceived as "natural" alternatives for pharmacological drugs, like food supplements, are not free of side effects per se, and should not be considered as "harmless".

PMID: 26971288 [PubMed - as supplied by publisher]

10. Identification of Toxic Pyrrolizidine Alkaloids and Their Common Hepatotoxicity Mechanism. Yan X, Kang H, Feng J, Yang Y, Tang K, Zhu R, Yang L, Wang Z, Cao Z.

Int J Mol Sci. 2016 Mar 7;17(3). pii: E318. doi: 10.3390/ijms17030318.

Pyrrolizidine Alkaloids (PAs) are currently one of the most important botanical hepatotoxic ingredients. Glutathion (GSH) metabolism is the most reported pathway involved in hepatotoxicity mechanism of PAs. We speculate that, for different PAs, there should be a common mechanism underlying their hepatotoxicity in GSH metabolism. Computational methods were adopted to test our hypothesis in consideration of the limitations of current experimental approaches. Firstly, the potential targets of 22 PAs (from three major PA types) in GSH metabolism were identified by reverse docking; Secondly, glutathione S-transferase A1 (GSTA1) and glutathione peroxidase 1 (GPX1) targets pattern was found to be a special characteristic of toxic PAs with stepwise multiple linear regressions; Furthermore, the molecular mechanism underlying the interactions within toxic PAs and these two targets was demonstrated with the ligand-protein interaction analysis; Finally, GSTA1 and GPX1 were proved to be significant nodes in GSH metabolism. Overall, toxic PAs could be identified by GSTA1 and GPX1 targets pattern, which suggests their common hepatotoxicity mechanism: the interfering of detoxication in GSH metabolism. In addition, all the strategies developed here could be extended to studies on toxicity mechanism of other toxins.

PMCID: PMC4813181
PMID: 26959016 [PubMed - in process]

11. Severe liver injury due to a homemade flower pollen preparation in a patient with high CYP3A enzyme activity: a case report. Rollason V, Spahr L, Escher M.

Eur J Clin Pharmacol. 2016 Apr;72(4):507-8. doi: 10.1007/s00228-015-1986-9. Epub 2016 Jan 8.

PMID: 26746721 [PubMed - in process]

12. Preclinical Models for Investigation of Herbal Medicines in Liver Diseases: Update and Perspective. Tan HY, San-Marina S, Wang N, Hong M, Li S, Li L, Cheung F, Wen XY, Feng Y.

Evid Based Complement Alternat Med. 2016;2016:4750163. doi: 10.1155/2016/4750163. Epub 2016 Jan 28.

Liver disease results from a dynamic pathological process associated with cellular and genetic alterations, which may progress stepwise to liver dysfunction. Commonly, liver disease begins with hepatocyte injury, followed by persistent episodes of cellular regeneration, inflammation, and hepatocyte death that may ultimately lead to nonreversible liver failure. For centuries, herbal remedies have been used for a variety of liver diseases and recent studies have identified the active compounds that may

interact with liver disease-associated targets. Further study on the herbal remedies may lead to the formulation of next generation medicines with hepatoprotective, antifibrotic, and anticancer properties. Still, the pharmacological actions of vast majority of herbal remedies remain unknown; thus, extensive preclinical studies are important. In this review, we summarize progress made over the last five years of the most commonly used preclinical models of liver diseases that are used to screen for curative herbal medicines for nonalcoholic fatty liver disease, liver fibrosis/cirrhosis, and liver. We also summarize the proposed mechanisms associated with the observed liver-protective, antifibrotic, and anticancer actions of several promising herbal medicines and discuss the challenges faced in this research field.

PMCID: PMC4749812
PMID: 26941826 [PubMed]

13. Concentrations of Trace Elements in Organic Fertilizers and Animal Manures and Feeds and Cadmium Contamination in Herbal Tea (Gynostemma pentaphyllum Makino). Nookabkaew S, Rangkadilok N, Prachoom N, Satayavivad J.

J Agric Food Chem. 2016 Apr 27;64(16):3119-26. doi: 10.1021/acs.jafc.5b06160. Epub 2016 Apr 8.

Thailand is predominantly an agriculture-based country. Organic farming is enlisted as an important national agenda to promote food safety and international export. The present study aimed to determine the concentrations of trace elements in commercial organic fertilizers (fermented and nonfermented) composed of pig and cattle manures available in Thailand. Pig and cattle manures as well as animal feeds were also collected from either animal farms or markets. The results were compared to the literature data from other countries. Fermented fertilizer composed of pig manure contained higher concentrations of nitrogen (N) and phosphorus (P) than fertilizer composed of cattle manure. High concentrations of copper (Cu) and zinc (Zn) were also found in fertilizers and manures. Some organic fertilizers had high concentrations of arsenic (As), cadmium (Cd), and lead (Pb). The range of As concentration in these fertilizers was 0.50-24.4 mg/kg, whereas the ranges of Cd and Pb were 0.10-11.4 and 1.13-126 mg/kg, respectively. Moreover, pig manure contained As and Cd (15.7 and 4.59 mg/kg, respectively), higher than their levels in cattle manure (1.95 and 0.16 mg/kg, respectively). The use of pig manure as soil supplement also resulted in high Cd contamination in herbal tea (Gynostemma pentaphyllum Makino; GP). The Cd concentration in GP plants positively correlated with the Cd concentration in the soil. Therefore, the application of some organic fertilizers or animal manures to agricultural soil could increase some potentially toxic elements in soil, which may be absorbed by plants and, thus, increase the risk of contamination in agricultural products.

PMID: 27058252 [PubMed - in process]

14. Chemical Adulterants in Herbal Medicinal Products: A Review. Calahan J, Howard D, Almalki AJ, Gupta MP, Calderón AI.

Planta Med. 2016 Apr;82(6):505-15. doi: 10.1055/s-0042-103495. Epub 2016 Apr 7.

Many herbal medicinal products have been found to contain synthetic prescription drugs as chemical adulterants. This has become evident by the number of toxicity cases and adverse reactions reported in which casualties were reported via analytical techniques that detected the presence of chemical adulterants in them, which could be responsible for their toxicity. The adulteration of herbal medicinal products with synthetic drugs continues to be a serious problem for regulatory agencies. This review provides up to date information on cases of toxicity, major chemical adulterants in herbal medicinal products, and current analytical techniques used for their detection.

PMID: 27054916 [PubMed - in process]

15. Herbal Medicines Induced Anticholinergic Poisoning in Hong Kong. Chan TY.

Toxins (Basel). 2016 Mar 18;8(3). pii: E80. doi: 10.3390/toxins8030080.

In the present review, the main objective was to report the incidence and causes of herbal medicines induced anticholinergic poisoning in Hong Kong during 1989-2012 and to emphasize the importance of pharmacovigilance, investigations and preventive measures. Relevant papers, official figures and unpublished data were obtained from Medline search, the Department of Health and the Drug and Poisons Information Bureau. In the New Territories East (where ~20% of the Hong Kong population lived), the incidence of herbal medicines induced anticholinergic poisoning during 1989-1993 was 0.09 per 100,000 population. There were no confirmed cases during 1994-1996. In the whole of Hong Kong, the incidence during 2000-June 2005 was 0.03 per 100,000 population. Contamination of Rhizoma Atractylodis (50%) and erroneous substitution (42%) were the main causes. The incidence during 2008-2012 was 0.06 per 100,000 population. Contamination of non-toxic herbs (50%) and erroneous substitution (41%) were the main causes. In Hong Kong, contamination of non-toxic herbs by tropane alkaloids and substitution of Flos Campsis by toxic Flos Daturae Metelis were the predominant causes of herbal medicines induced anticholinergic poisoning. Systematic studies along the supply chain are necessary to identify the likely sources of contamination. If erroneous substitution of Flos Campsis by Flos Daturae Metelis could be prevented, 40% of herbal medicines induced anticholinergic poisoning would not have occurred. Regular inspection of the retailer, continuing education for the staff in the herbal trade and repeated publicity measures will also be required. Pharmacovigilance of herbal medicines should help determine the incidence and causes of adverse reactions and monitor the effectiveness of preventive measures.

PMCID: PMC4810225
PMID: 26999208 [PubMed - in process]

16. A Comprehensive Review of Recent Studies on Herb-Drug Interaction: A Focus on Pharmacodynamic Interaction. Choi JG, Eom SM, Kim J, Kim SH, Huh E, Kim H, Lee Y, Lee H, Oh MS.

J Altern Complement Med. 2016 Apr;22(4):262-79. doi: 10.1089/acm.2015.0235. Epub 2016 Mar 22.

OBJECTIVES: The concomitant use of herbal and conventional drugs accelerates the possibility of clinically significant herb-drug interactions (HDIs). This paper aims to analyze the current status of HDI studies worldwide and to review studies on HDI-induced pharmacodynamic (PD) interactions. METHODS: HDI studies published from 2000 to 2014 and indexed in PubMed were categorized according to publication year, area/country, study methods and objectives, and disease categories. The reviewed studies focused on HDI-induced PD; each PD interaction with concurrent use of approximately 100 herbal drugs and 70 conventional drugs was summarized. All PD-related articles were categorized according to four characteristics: herbal drugs, conventional drugs, types of PD interaction, and type of study. Among them, 17 well-designed clinical studies were evaluated by using the Jadad Quality Assessment Scale. RESULTS: The number of HDI reports has gradually increased since 2000, with a primary focus on neoplasms and diseases of the circulatory system. Most of these investigated pharmacokinetic reactions, such as cytochrome P450 enzyme metabolism, with fewer reports investigating PD. Most PD interaction studies investigated warfarin, ginkgo leaves, and St. John's wort. An evaluation of 17 studies revealed a generally positive view of PD effects involving synergism or reduced toxicity and a high average quality score (>3 points on a 0-5 scale). CONCLUSIONS: These results demonstrate that most HDI studies so far have examined PK interactions and have been limited to very few conventional drugs and herbal drugs. This suggests that more studies focusing on PD are necessary to understand interactions between commonly used herbal and conventional drugs.

PMID: 27003511 [PubMed - in process]

17. Use and toxicity of complementary and alternative medicines among patients visiting emergency department: Systematic review. Jatau AI, Aung MM, Kamauzaman TH, Chedi BA, Sha'aban A, Rahman AF.

J Intercult Ethnopharmacol. 2016 Mar 2;5(2):191-7. doi: 10.5455/jice.20160223105521.

Many studies have been conducted in health-care settings with regards to complementary and alternative medicine (CAM) use among patients. However, information regarding CAM use among patients in the emergency department (ED) is scarce. The aim of this article was to conduct a systematic review of published studies with regards to CAM use among the ED patients. A literature search of published studies from inception to September 2015 was conducted using PubMed, Scopus, and manual search of the reference list. 18 studies that met the inclusion criteria were reviewed. The prevalence rate of CAM use among ED patients across the studies ranged of 1.4-68.1%. Herbal therapy was the sub-modality of CAM most commonly used and frequently implicated in CAM-related ED visits. Higher education, age, female gender, religious affiliation, and chronic diseases were the most frequent factors associated with CAM use among the ED patients. Over 80% of the ED physicians did not ask the patients about the CAM therapy. Similarly, 80% of the ED patients were ready to disclose CAM therapy to the ED physician. The prevalence rate of CAM use among patients at ED is high and is growing with the current increasing popularity, and it has been a reason for some of the ED visits. There is a need for the health-care professionals to receive training and always ask patients about CAM therapy to enable them provide appropriate medical care and prevent CAM-related adverse events.

PMCID: PMC4835996
PMID: 27104042 [PubMed]

18. Adverse Effects of Plant Food Supplements and Plants Consumed as Food: Results from the Poisons Centres-Based PlantLIBRA Study. Lüde S, Vecchio S, Sinno-Tellier S, Dopter A, Mustonen H, Vucinic S, Jonsson B, Müller D, Veras Gimenez Fruchtengarten L, Hruby K, De Souza Nascimento E, Di Lorenzo C, Restani P, Kupferschmidt H, Ceschi A.

Phytother Res. 2016 Mar 7. doi: 10.1002/ptr.5604. [Epub ahead of print]

Plant food supplements (PFS) are products of increasing popularity and wide-spread distribution. Nevertheless, information about their risks is limited. To fill this gap, a poisons centres-based study was performed as part of the EU project PlantLIBRA. Multicentre retrospective review of data from selected European and Brazilian poisons centres, involving human cases of adverse effects due to plants consumed as food or as ingredients of food supplements recorded between 2006 and 2010. Ten poisons centres provided a total of 75 cases. In 57 cases (76%) a PFS was involved; in 18 (24%) a plant was ingested as food. The 10 most frequently reported plants were Valeriana officinalis, Camellia sinensis, Paullinia cupana, Melissa officinalis, Passiflora incarnata, Mentha piperita, Glycyrrhiza glabra, Ilex paraguariensis, Panax ginseng, and Citrus aurantium. The most frequently observed clinical effects were neurotoxicity and gastro-intestinal symptoms. Most cases showed a benign clinical course; however, five cases were severe. PFS-related adverse effects seem to be relatively infrequent issues for poisons centres. Most cases showed mild symptoms. Nevertheless, the occurrence of some severe adverse effects and the increasing popularity of PFS require continuous active surveillance, and further research is warranted.

PMID: 26948409 [PubMed - as supplied by publisher]

19. Allergy-Like Immediate Reactions with Herbal Medicines: A Retrospective Study Using Data from VigiBase(®). Pokladnikova J, Meyboom RH, Meincke R, Niedrig D, Russmann S.

Drug Saf. 2016 May;39(5):455-64. doi: 10.1007/s40264-016-0401-5.

INTRODUCTION: Herbal medicines are used worldwide and with an increasing popularity in Western countries. Although often perceived as 'naturally safe', herbals may cause severe adverse drug reactions (ADRs), with immediate allergic reactions being particularly life threatening. OBJECTIVES: The aim of this study was to analyse immediate allergy-like ADRs to herbals documented in VigiBase(®), the WHO international pharmacovigilance database. METHODS: The documentation of all suspected ADRs in association with herbal exposure reported to VigiBase(®) from 1969 to August 2014 was retrieved. Among all reports in which WHO-ART reaction terms were indicative of acute allergic reactions, those classified as 'suspect' with a documented causality assessment and latency time of ≤1 day were selected. For the most frequent specific herbal-ADR combinations, the information component (IC) as a measure of disproportionality based on Bayesian statistics was calculated. RESULTS: We identified 757 reports out of 1039 ADRs. Products with mixed herbals (36.0 %) as well as those administered orally (63.2 %) were predominant. The most frequent reactions were urticaria and rash (49.2 %). Anaphylactic reactions accounted for 9.5 %. Disproportionally frequent reporting of mouth edema (IC = 1.81) and anaphylactic reactions (IC = 1.24) to Phleum pretense were noted. CONCLUSION: Our findings indicate that herbal medicines for oral use carry a risk of causing immediate allergy-like ADRs. Studies using the Vigibase(®) database can identify specific combinations of particular herbs and adverse reactions. Healthcare professionals and patients should be aware of these risks and report any serious adverse experiences.

PMID: 26936182 [PubMed - in process]

20. European medicinal and edible plants associated with subacute and chronic toxicity part I: Plants with carcinogenic, teratogenic and endocrine-disrupting effects. Kristanc L, Kreft S.

Food Chem Toxicol. 2016 Apr 14;92:150-164. doi: 10.1016/j.fct.2016.04.007. [Epub ahead of print]

In recent decades, the use of herbal medicines and food products has been widely embraced in many developed countries. These products are generally highly accepted by consumers who often believe that "natural" equals "safe". This is,however, an oversimplification because several botanicals have been found to contain toxic compounds in concentrations harmful to human health. Acutely toxic plants are in most cases already recognised as dangerous as a result of their traditional use, but plants with subacute and chronic toxicity are difficult or even impossible to detect by traditional use or by clinical research studies. In this review, we systematically address major issues including the carcinogenicity, teratogenicity and endocrine-disrupting effects associated with the use of herbal preparations with a strong focus on plant species that either grow natively or are cultivated in Europe. The basic information regarding the molecular mechanisms of the individual subtypes of plant-induced non-acute toxicity is given, which is followed by a discussion of the pathophysiological and clinical characteristics. We describe the genotoxic and carcinogenic effects of alkenylbenzenes, pyrrolizidine alkaloids and bracken fern ptaquiloside, the teratogenicity issues regarding anthraquinone glycosides and specific alkaloids, and discuss the human health concerns regarding the phytoestrogens and licorice consumption in detail.

PMID: 27090581 [PubMed - as supplied by publisher]

21. European medicinal and edible plants associated with subacute and chronic toxicity part II: Plants with hepato-, neuro-, nephro- and immunotoxic effects. Kristanc L, Kreft S.

Food Chem Toxicol. 2016 Mar 21;92:38-49. doi: 10.1016/j.fct.2016.03.014. [Epub ahead of print]

A tremendous surge of public interest in natural therapies has been reported in the past several decades in both developing and developed countries. Furthermore, edible wild-growing plants whose use had long been associated with poverty and famine have also gained in popularity among people in developed countries. An important fraction of herbal products evade all control measures and are generally perceived as safe. However, this may not always be true. It is important to recognize that some plants are not associated with acute toxicity but rather produce more insidious problems, which develop only with long-term exposure. In this review, we continue a systematic analysis of the subacute and chronic toxicity

associated with the use of herbal preparations. The hepato-, neuro-, nephro- and immunotoxicity of plant species that either grow natively or are cultivated in Europe are discussed in some detail. The basic concepts regarding the molecular mechanisms implicated in their nonacute toxicity and their pathophysiological, clinical and epidemiological characteristics are included. Among others, we discuss the hepatotoxicity of pyrrolizidine alkaloids,the nephrotoxicity of aristolochic acid, the lathyrism associated with neurotoxin swainsonine, thiamine depletion and thyroid dysfunction of herbal cause, and finally address also the immunosuppressive effects of cannabinoids.

PMID: 27012588 [PubMed - as supplied by publisher]