AACT Herbal Dietary Supplement Section Abstracts
August 2025-December 2025

1. **The Impact of Diverse Kratom Products on Use Patterns, Dependence, and Toxicity.** Curr Psychiatry Rep. 2025 Oct;27(10):584-592. doi: 10.1007/s11920-025-01631-7. Epub 2025 Aug 5.

   Vadiei N, Evoy KE, Grundmann O.

   PURPOSE OF REVIEW: Kratom products have been available in the US for over a decade. Initially, these products were almost entirely made from kratom leaf material and formulated in powders, capsules, or tablets. Recently, more diverse kratom products and derivatives have been marketed and sold, including extracts, concentrates, and isolates. This review focuses on the differing symptom presentation of products containing concentrated or isolated kratom-derived alkaloids that may cause substantial risks to consumers.
   RECENT FINDINGS: Recently, several concentrated or semi-synthetic products have entered the market that are advertised as kratom, but which pharmacologically bear little similarity to traditional kratom. Although the alkaloid content naturally ranges from 2 to 5% in native leaf material, it can be up to 60% in concentrated extracts. Most concerning are the products containing pure, isolated 7-hydroxymitragynine and mitragynine pseudoindoxyl. These derivatives of kratom alkaloids are not naturally present in leaf material, but function as more potent opioid agonists than morphine. Products marketed as kratom but containing much higher alkaloid concentrations than found in the natural kratom leaf, or semi-synthetic isolates of highly potent alkaloid derivatives not typically found in the plant, represent a growing public health concern. There is minimal clinical research to assess their safety or regulation to ensure safe manufacturing practices. Limited pre-clinical data indicate that these products pose a greater risk of toxicity, drug interactions, and physiologic dependence. And based on misleading advertising, consumers may be unaware of the differences and increased risks associated with these products compared with traditional whole leaf kratom.

   DOI: 10.1007/s11920-025-01631-7
   PMID: 40762659 [Indexed for MEDLINE]

2. **Adverse reactions of liquorice consumed in the diet: a 10-year retrospective study of poison centres in France**. Clin Toxicol (Phila). 2025 Aug;63(8):579-587. doi: 10.1080/15563650.2025.2514643. Epub 2025 Jul 21.

   Caré W), Grenet G, Schmitt C, De Haro L, Langrand J;

   INTRODUCTION: We aimed to describe the symptoms, patient demographics, and trends over time of adverse effects related to liquorice consumed in the diet reported to French poison centres.
   METHODS: We performed a retrospective study of data from French poison centres of cases of adverse effects of liquorice consumed in the diet, with a high causality score, between 2012 and 2021 (10 years).
   RESULTS: Sixty-four cases were included. The annual number of cases ranged from three to nine, with no significant variation over the study period. Liquorice-induced reactions were very rare (0.008% of all cases with symptoms reported to French poison centres). The products consumed were non-alcoholic beverages (non-alcoholic pastis, liquorice-based Antésite®, and liquorice syrup), alcoholic beverages of the pastis type (10.9%), confectionery containing liquorice (12.5%), confectionery made with liquorice extract only (9.4%), herbal teas (12.5%) and food supplements (4.7%). Consumption was commonly chronic (67.2%) and non-compliant (70.3%). Chronic users presented with symptoms suggestive of pseudohyperaldosteronism, the severity of which seemed to correlate with the amount of glycyrrhizin ingested. Severity was high in 43.8% of cases. When the outcome was known (56.3%), it was favourable in almost all cases (94.4%), often after inpatient care, particularly in an intensive care unit. One patient had sequelae due to a stroke, and one fatality was reported. Severe cases were observed with all types of products, except liquorice syrup and food supplements, and more frequently with beverages (pastis with or without alcohol, and Antésite®).
   DISCUSSION: Due to significant variability in response to glycyrrhizin, some patients presented signs and symptoms suggestive of pseudohyperaldosteronism such as hypokalaemia, salt and water retention, and hypertension despite consuming the product as directed.
   CONCLUSIONS: Liquorice-induced effects were rarely reported to French poison centres, but their severity was high. Most patients were adults with chronic and non-compliant consumption, especially of soft drinks, with a clinical presentation suggestive of pseudohyperaldosteronism.

   DOI: 10.1080/15563650.2025.2514643
   PMID: 40689486 [Indexed for MEDLINE]

3. **Can vitamin D supplementation be dangerous? 25-Hydroxyvitamin D and 1,25-hydroxyvitamin D concentration in healthy population and primary hyperparathyroidism: a single-center experience and literature review**. Front Endocrinol (Lausanne). 2025 Dec 4;16:1700345. doi: 10.3389/fendo.2025.1700345. eCollection 2025.

   Obołończyk Ł, Berendt-Obołończyk M, Sworczak K, Karwacka-Bujak I, Majerowska E, Renke M.

   Primary hyperparathyroidism (PHPT) is an excessive secretion of PTH caused by a defect in parathyroid cells, insensitive to the suppressive effects of hypercalcemia. The effect of 25-hydroxyvitamin D3 (25-OH-D) and skeletal and extra-skeletal conditions is well known, but the impact of 25-OH-D and 1,25-OH-D in the pathogenesis of primary hyperparathyroidism (PHPT) is still poorly researched. The study group (SG) consists of 85 patients with diagnosed PHPT. The control group (CG) consists of 51 patients without calcium-phosphate imbalance. The SG was divided into two subgroups: SG1 (patients with PHPT qualified for conservative management) and SG2 (patients who are qualified for surgical treatment). Serum PTH, calcium and phosphates concentration were assessed as well as the concentration of 25-OH-D and 1,25-OH-D. The ratio of 1,25-OH-D to 25-OH-D was introduced: vitamin D activation ratio (VD-AR). The median concentration of 25-OH-D3: 30,00 ng/mL in CG, 32,75 ng/ml in SG1 and 27,6 ng/mL in SG2. The highest 1,25-OH-D3 median concentration was found among patients in SG2 (91,1 pg/mL) lower in SG1 (64,05 pg/mL) and the lowest in CG (46,20 pg/mL). VD-AR was highest in SG2 as well, with median 3,32. Results given prove the statistically significant differences between the medians of 1,25-OH-D and VD-AR between pairs of all groups (e.g. SG1 vs. SG2; SG1 vs. CG etc.). In the logit model for calcium, the structural parameter for the VD-AR was statistically significant-the higher the value of VD-AR the greater the probability of hypercalcemia above 11 mg/dL (74.1%). In the logit model for indication for parathyroidectomy, the structural parameter for the VD-AR and iPTH was statistically significant at 0.05 significance level, which means that higher value of VD-AR the greater probability of surgery and independently the higher serum concentration of iPTH the greater probability of surgery as well (72.9%) To conclude, 1,25-OH-D serum concentration and VD-AR are significantly higher in PHPT patients than in the healthy population. 1,25-OH-D serum concentration and VD-AR are significantly higher in PHPT patients qualified to surgery than qualified to conservative treatment. Moreover, higher value of VD-AR makes greater probability of hypercalcemia above 11 mg/dL. We suggest VD-AR cut-off 3.3 as clinically relevant.

DOI: 10.3389/fendo.2025.1700345
PMCID: PMC12711466
PMID: 41427056 [Indexed for MEDLINE]

4. **Prescription-dispensing mismatch leading to vitamin D intoxication in an infant.** BMJ Case Rep. 2025 Nov 23;18(11):e267253. doi: 10.1136/bcr-2025-267253.

   Sudarsan A, Pasupathy U, Bharathi U.

   Vitamin D is a fat-soluble vitamin synthesised in the skin through sunlight exposure and is routinely supplemented in infants due to its limited presence in human milk. The recommended dose is 400 IU/day until 1 year of age. However, excessive supplementation can result in hypervitaminosis D, a serious condition in infants. We report a case of a term male infant who presented with poor feeding and an irritable cry, especially during urination, for 3 days. It was
   found that he had been receiving 6000 IU/day of vitamin D for 45 days, with a cumulative dose of 320 000 IU. Laboratory results revealed toxic vitamin D levels (>120 ng/mL), elevated serum calcium and a high urine calcium/creatinine ratio, though imaging showed no nephrocalcinosis. Supplementation was stopped and hyperhydration initiated, leading to symptomatic improvement within 48 hours. This case highlights the importance of cautious prescription practices to prevent supplement-related toxicity in children.

   DOI: 10.1136/bcr-2025-267253
   PMID: 41276311 [Indexed for MEDLINE]

5. **Cardiovascular toxicity associated with supplement use**. Clin Toxicol (Phila). 2025 Nov;63(11):801-809. doi: 10.1080/15563650.2025.2550983. Epub 2025 Sep 17.

   Corcoran J.

   BACKGROUND: Supplement use is prevalent and appears to be increasing over time. In the United States, regulation by the Food and Drug Administration is limited largely to post-marketing surveillance, raising safety concerns. A variety of supplements have been associated with cardiovascular toxicity, which can occur via adulteration, substitution, or as a result of intrinsic toxicity of the supplement. Cardiovascular toxicity due to supplement use may arise via several different mechanisms, and has been reported with supplements that act as central nervous

system stimulants, via poisoning of cardiac ion channels, as a result of cardioactive steroids, and by modulation of the endocrine system.
STIMULANTS: Supplements that act as central nervous system stimulants include those that act directly on adrenoreceptors or indirectly via the release of catecholamines, and include substances such as ephedra, synephrine, and yohimbine. Adverse effects vary depending on the agent and include tachycardia, hypertension, hyperthermia, myocardial infarction, and cardiac arrest.ION CHANNEL POISONS: Poisoning of cardiac voltage-gated sodium channels has been reported with supplements that contain or are contaminated with aconitine or grayanotoxins and cause wide complex dysrhythmias. Inhibition of cardiac myocyte voltage-gated potassium channels is associated with berberine, leading to prolongation of the QT interval and polymorphic ventricular tachycardia.
CARDIOACTIVE STEROIDS: Cardioactive steroids derived from yellow oleander are implicated in serious toxicity and death associated with the weight loss product "Nuez de la India" in what appears to be an inadvertent substitution error. Animal-derived cardioactive steroids from the Bufo spp. of toad used as an aphrodisiac also cause clinically significant cardiac toxicity and death.
ENDOCRINE MODULATORS: Supplemental use of black licorice induces hypokalemia, and is associated with the development of torsade de pointes.
CONCLUSION: Clinically significant cardiovascular toxicity associated with supplement use is a fortunately rare phenomenon that can occur via multiple mechanisms. Clinicians should maintain awareness that supplements may produce serious and sometimes life-threatening cardiovascular poisoning.

DOI: 10.1080/15563650.2025.2550983
PMID: 40960841 [Indexed for MEDLINE]

6. **Plant-based protein supplements as emerging sources of metal exposure: A risk assessment study,** Journal of Trace Elements in Medicine and Biology,Volume 91,2025. https://doi.org/10.1016/j.jtemb.2025.127703.

   Bethencourt-Barbuzano E, Pyrzynska E, Siedzik K, et al

   The growing demand for plant-based diets has prompted the food industry to develop nutritional supplements, particularly plant-based protein supplements (PS), designed to meet the needs of vegans and vegetarians. While these supplements offer essential nutrients, they may also contain potentially toxic elements (PTEs) that pose health risks. This study assessed the metal content of 56 plant-based PS samples from European sources using Inductively Coupled Plasma Optical Emission Spectrometry (ICP-OES). Dietary exposure to these elements was evaluated across

three consumption scenarios, considering established reference intake values (AI/TDI/TWI/UL) and the Margin of Exposure (MOE) for lead (Pb). The analysis identified plant-based PS as significant sources of essential elements, including sodium (9101.66 mg/kg), potassium (5784.91 mg/kg), calcium (2201.45 mg/kg), molybdenum (1.63 mg/kg), manganese (25.14 mg/kg), copper (11.59 mg/kg), iron (132.58 mg/kg), zinc (62.56 mg/kg), chromium (0.45 mg/kg), and cobalt (0.11 mg/kg). However, these products also contained PTEs such as lead (0.07 mg/kg), cadmium (0.09 mg/kg), aluminum (18.39 mg/kg), nickel (1.19 mg/kg), strontium (5.67 mg/kg), barium (1.86 mg/kg), boron (4.59 mg/kg), and vanadium (0.05 mg/kg). At the recommended consumption level of 30 g/day, exposure to both essential and PTEs did not exceed reference intake limits. However, this dose accounted for 75 % of the Adequate Intake (AI) for molybdenum. Excessive consumption (100 g/day) raised concerns about exceeding the AI for copper (105.40 %) and magnesium (105.90 %) in women, as well as molybdenum (250.16 %) and iron (120.53 %) for men and postmenopausal women. These findings underscore the dual role of plant-based PS as valuable sources of essential nutrients and potential vectors for PTEs.

7. **Acute kidney injury with cast nephropathy following creatine loading in a 17-year-old.** Pediatr Nephrol. 2025 Oct;40(10):3089-3092. doi: 10.1007/s00467-025-06784-4. Epub 2025 Apr 30.

   Filler G, Maung E, Díaz González de Ferris ME, Chan NG, Sharma AP.

   This case highlights a 17-year-old male who developed acute kidney injury (AKI) with cast nephropathy following a 6-day high-dose creatine loading regimen. The patient presented with bilateral flank pain, a parallel rise in cystatin C and creatinine, and kidney enlargement on ultrasound despite adequate hydration and the absence of rhabdomyolysis markers. Renal biopsy confirmed cast nephropathy without evidence of light chain disease. This case underscores the potential risks of high-dose creatine use in adolescents and highlights the importance of kidney function monitoring in athletes using sports supplements.

   DOI: 10.1007/s00467-025-06784-4
   PMID: 40304760 [Indexed for MEDLINE]

8. **Safety of long-term creatine supplementation in women's football players: a real-world in-season study**. J Int Soc Sports Nutr. 2025 Sep 30;22(sup1):2591782. doi: 10.1080/15502783.2025.2591782. Epub 2025 Dec 2. Erratum in J Int Soc Sports Nutr. 2026 Dec 31;23(1):2607167. doi: 10.1080/15502783.2025.2607167.

Garcia MP, Longobardi I, Saito T, Miranda MS, Roschel H, Gualano B.
Although creatine supplementation is well established for enhancing athletic performance, data on its long-term safety are still limited, particularly among female athletes. This study investigated the effects of in-season creatine supplementation on biochemical safety markers in young female football players. This real-world, longitudinal single-arm study assessed the safety of creatine supplementation during a competitive season in 71 female athletes from youth and professional football teams. Participants received 20 g/day of creatine monohydrate for 7 days, followed by 5 g/day for the remainder of the season. Dietary intake and a comprehensive panel of hematological, renal, and hepatic biomarkers were evaluated at baseline, mid- (week 16), and end-season (week 32). Linear mixed-model with repeated measures analysis revealed that 8 out of 18 biochemical markers showed statistically significant though clinically minor fluctuations throughout the season. All analytes, except creatine phosphokinase (CPK), remained within reference ranges. No adverse effects were observed on renal (e.g. glomerular filtration rate, creatinine, urea, albuminuria) or hepatic (ALT, AST) function. CPK levels variation likely reflected training load rather than supplementation effects. In this single-arm in-season cohort, long term creatine supplementation was not associated with clinically meaningful derangements in biochemical safety markers in female football players. These findings support the long-term safety profile of creatine in this population and encourage further research into its sex-specific effects in athletic settings.

DOI: 10.1080/15502783.2025.2591782
PMCID: PMC12673977
PMID: 41328005 [Indexed for MEDLINE]

9. **Acute Kidney Injury and Fanconi Syndrome Caused by a Red Yeast Rice Supplement**. Intern Med. 2025 Aug 15;64(16):2472-2477. doi: 10.2169/internalmedicine.4330-24. Epub 2025 Feb 22.

   Doi T, Shimizu A, Morimoto E, Morii K, Okubo A, Mizuiri S, Nishizawa Y, Masaki T.

   We herein report a case of acute kidney injury and Fanconi syndrome associated with a red yeast rice supplement. A 72-year-old woman's serum creatinine rose from 0.7 to 3.97 mg/dL after starting the supplement, accompanied by metabolic acidosis, proteinuria, hematuria, and glucosuria. A kidney biopsy showed proximal tubular injury without abundant tubulitis. Immunostaining showed dilated tubules that were positive for CD 10, confirming proximal tubule localization. Discontinuation of the supplement and steroid pulse therapy improved the patient's condition. This case highlights the health risks associated with unregulated dietary supplementation.

   DOI: 10.2169/internalmedicine.4330-24
   PMCID: PMC12425577
   PMID: 39993755 [Indexed for MEDLINE]

10. **A case of secondary oxalate nephropathy with nephrotic syndrome.** Medicine (Baltimore). 2025 Dec 26;104(52):e46524. doi: 10.1097/MD.0000000000046524.

    Weng M, Zha C.

    RATIONALE: Nephrotic syndrome, caused by various etiologies and pathophysiological mechanisms, is occasionally complicated by secondary oxalate nephropathy-a rare and often underrecognized condition associated with Chinese herbal medicine use. The co-occurrence of nephrotic syndrome and oxalate nephropathy is extremely uncommon, and delayed diagnosis may lead to severe outcomes.
    PATIENT CONCERNS: A 19-year-old Chinese male presented with persistent edema for over 20 days and significant proteinuria. After taking traditional Chinese medicine for 20 days, his condition worsened rapidly, with new symptoms including infectious fever, erysipelas, acute renal failure, and heart failure.
    DIAGNOSES: The patient was diagnosed with nephrotic syndrome and acute oxalate
    nephropathy. Renal biopsy confirmed minimal change nephropathy (with possible focal segmental glomerulosclerosis) and acute tubulointerstitial injury with birefringent oxalate crystals in renal tubules.

INTERVENTIONS: A multidisciplinary treatment approach was adopted, including anti-infective therapy, volume expansion, diuresis, oral vitamin B6, methylprednisolone immunosuppression, and hemodialysis.
OUTCOMES: After one month of glucocorticoid therapy, hemodialysis, and supportive care, urine output increased and renal function improved. The patient was discharged without requiring further hemodialysis. Outpatient follow-up showed normalized renal function, resolved proteinuria, and normal renal ultrasonography.
LESSONS: Although traditional Chinese medicine is widely used in China, its potential to cause secondary oxalate nephropathy is often overlooked. Early renal biopsy is essential for accurate diagnosis and timely intervention in cases of nephrotic syndrome complicated by oxalate nephropathy.

DOI: 10.1097/MD.0000000000046524
PMCID: PMC12746954
PMID: 41465941 [Indexed for MEDLINE]

11. **Risk assessment of daikenchuto-induced hepatobiliary injury in colon cancer patients post-colectomy: a retrospective cohort study.** BMC Complement Med Ther. 2025 Dec 19;25(1):442. doi: 10.1186/s12906-025-05186-1.

Watanabe S, Wada Y, Nagata J, Asakawa T, Hirata K, Fujino Y.

BACKGROUND: Colectomy for colon cancer typically results in gastrointestinal hypomotility. Daikenchuto, a herbal medicine traditionally used in Japan, is administered to alleviate gastrointestinal hypomotility. However, it is suspected to cause hepatobiliary injury. Therefore, in this comparative, retrospective cohort study, we aimed to assess the risk of daikenchuto administration-induced hepatobiliary injury post-colectomy.
METHODS: Patients with colon cancer who underwent colectomy, excluding the population with a high risk of postoperative hepatobiliary injury, were included in this study (N = 17,996). Specifically, patients who received daikenchuto within 4 days after colectomy or from the day of surgery to the first meal postoperatively and those who did not receive daikenchuto were assigned to the daikenchuto exposure and non-exposure groups, respectively. The primary outcome was the postoperative administration of cholagogues or hepatoprotective drugs. Multivariate logistic regression analysis was performed considering the perioperative risk factors for hepatobiliary injury. The analysis estimated the adjusted odds ratios to assess the risk of daikenchuto-induced hepatobiliary injury.
RESULTS: The frequencies of the postoperative administration of cholagogues or hepatoprotective drugs were 52 of 2,324 patients (2.24%) and 421 of 15,672

(2.69%) in the daikenchuto exposure and non-exposure groups, respectively. Furthermore, the adjusted odds ratio and 95% confidence interval (0.62-1.12) were < 1 and included 1, respectively.
CONCLUSIONS: No association between daikenchuto and the risk of hepatobiliary injury was identified. Thus, our results imply that daikenchuto can be safely administered post-colectomy.TRIAL
REGISTRATION: This study was registered in the Japan Registry of Clinical Trials (Trial ID: jRCT1031240102; https://jrct.mhlw.go.jp/en-latest-detail/jRCT1031240102) on May 22, 2024.

DOI: 10.1186/s12906-025-05186-1
PMCID: PMC12717749
PMID: 41420164 [Indexed for MEDLINE]

12. **When the cure turns toxic: a case report on toxic alkaloids identified by public mass spectral databases.** Front Med (Lausanne). 2025 Oct 20;12:1681334. doi: 10.3389/fmed.2025.1681334. eCollection 2025.

Lei Y, Yi Q, Lu J, Sheng Y, Xue Y.

Aconitine is a highly toxic diterpenoid alkaloid, produced by root of Aconitum brachypodum Diels. (A. brachypodum), also known as "Xue-Shang-Yi-Zhi-Hao," that is still used in Chinese herbal medicines. Aconitine poisoning remains common in China and other parts of Asia. Cistanche deserticola Y. C. Ma (CD), a drug-food homologue plant, bears a resemblance to A. brachypodum, thus posing a risk of accidental ingestion. Here we present a case report of aconitine poisoning resulting from accidental ingestion. A 54-year-old male presented to the emergency department with toxic symptoms after ingesting homemade herbal medicinal wine. Toxicological analysis was erformed, the herbal medicinal wine sample retained from the patient was analyzed using ultrahigh performance liquid chromatography quadrupole-time-of-flight mass spectrometer system. By utilizing the spectral libraries within Global Natural Product Social (GNPS), we identified several aconitum alkaloids-including indaconitine, yunaconitine, talatisamine, and chasmanine-from the herbal medicinal wine sample. This is the first case report of aconitum poisoning where a large-scale public mass spectral databases was used for the rapid screening of toxic substances. The method applied in this study provides a novel approach for the screening of cases involving unexplained poisoning.

DOI: 10.3389/fmed.2025.1681334

PMCID: PMC12580361
PMID: 41189881

13. **Pediatric ricin toxicity from castor seed ingestion: a case report from Nepal**. Ann Med Surg (Lond). 2025 Sep 16;87(11):7693-7697. doi: 10.1097/MS9.0000000000003907. eCollection 2025 Nov

    Rauniyar Z, Thapa T, Thapa U, Shrestha RS.

    INTRODUCTION: The castor oil plant (Ricinus communis), which is widely used in traditional medicine, contains ricin, a highly toxic ribosome-inactivating protein. The accidental ingestion of castor seeds poses significant health risks, particularly in the pediatric population.
    CASE PRESENTATION: We report a case of ricin toxicity in a 6-year-old boy following castor seed ingestion in Nepal. The patient presented with gastrointestinal symptoms, which necessitated prompt evaluation and supportive management in a resource-limited setting.
    DISCUSSION: This case illustrates the diagnostic dilemma of plant toxin ingestion in children, the effectiveness of basic supportive care despite the absence of specific antidotes, and the emerging role of rapid diagnostic tools in facilitating early detection and resolving the diagnostic uncertainty.
    CONCLUSION: This case demonstrates the risks of ricin poisoning in children and emphasizes the need for greater public awareness and improved healthcare preparedness in regions where castor oil plants are endemic.

    DOI: 10.1097/MS9.0000000000003907
    PMCID: PMC12577919
    PMID: 41180702

14. **Autopsy case: Vitiligo death from self-medication by Ammi visnaga poisoning**. Med Leg J. 2025 Oct 27:258172251337046. doi: 10.1177/00258172251337046. Online ahead of print.

    Benyousef R, Essadi A, Zarhouni B, Ouali M, Numbi EM, Aarab J, Nya S.

    We report a fatal case of Ammi visnaga poisoning at Tangier's Forensic Medicine Department. An 18-year-old woman self-medicated with Ammi visnaga powder to treat her vitiligo. She experienced a wide range of symptoms and rapid clinical deterioration with a fatal outcome. The autopsy revealed lesions consistent with cutaneous vitiligo, necrosis of the liver, kidneys, lungs and pancreas.

Toxicological and histological analysis confirmed chronic inflammation and acute systemic damage, highlighting Ammi visnaga's potential toxicity. Its bioactive components vary, with the toxic dose estimated at 1 g per kg. This case demonstrates that prolonged consumption of herbal remedies like Ammi visnaga can be dangerous and indeed fatal. Raising public awareness on the dangers of self-medication and need for medical supervision and education on the dosage and side effects of Ammi visnaga is essential. The marketing of these products by non-professionals should be restricted.

DOI: 10.1177/00258172251337046
PMID: 41145408

15. **Acute Cade Oil Poisoning in Children: Report of Two Cases. Cureus**. 2025 Aug 10;17(8):e89717. doi: 10.7759/cureus.89717. eCollection 2025 Aug.

Oulalite MA, Berrichi S, Kachmar S, Laaribi I, Bkiyar H.

Cade oil, widely used in traditional Moroccan medicine for its perceived therapeutic properties, can lead to severe toxicity when ingested or applied extensively to the skin, particularly in infants and young children. We report two cases of toddlers who developed altered consciousness following widespread topical application. Laboratory findings revealed mild hepatic cytolysis and inflammatory markers, though imaging and cerebrospinal fluid analysis were normal. Both patients responded well to supportive care, including thorough decontamination and close clinical monitoring, and made a full recovery. These cases highlight the potential dangers of unregulated traditional treatments and underscore the need for greater public awareness, early clinical recognition, and appropriate medical intervention to prevent life-threatening complications.

DOI: 10.7759/cureus.89717
PMCID: PMC12417266
PMID: 40932939

16. **Acute Kava (Piper Methysticum) Dermatitis With Drug Reaction With Eosinophilia and Systemic Symptoms-Like Features and Sebotropic Inflammation: A Case Series**. Am J Dermatopathol. 2025 Oct 1;47(10):782-785. doi: 10.1097/DAD.0000000000003084. Epub 2025 Aug 4.

    Wei Ng TT, Hillan AL, Ghodsian MM, Ardakani NM, Sadler G, Wood BA.

    The kava plant is native to the Pacific Islands. A mildly psychoactive beverage, also referred to as kava, made from the roots and stems of this plant, is widely ingested in these regions for social, cultural, and medicinal purposes. In recent years, kava extracts in various forms have been used in conventional Western and alternative medicine. Although chronic ingestion of large amounts of kava is well known to cause an icthyosiform skin condition, acute reactions are less well described. We report 3 patients of non-Pacific Islander background who developed acute reactions, clinically resembling drug reaction with eosinophilia and systemic symptoms, after commencement of kava ingestion following recent regulatory changes, making this product more widely available. In all 3 patients, skin biopsy revealed a distinctive and unusual pattern of sebaceous adenitis with single cell apoptosis.

    DOI: 10.1097/DAD.0000000000003084
    PMID: 40757984 [Indexed for MEDLINE]

17. **Kava Herb-Induced Liver Injury as Verified by the Updated RUCAM**. Case Rep Gastrointest Med. 2025 Dec 29;2025:3914876. doi: 10.1155/crgm/3914876. eCollection 2025.

    Withanage S, Cosgrave C, Zafir S, Flanagan E, Te P, Hall S.

    A temporal relationship between liver enzyme derangement and an herbal remedy warrants further assessment for herb-induced liver injury (HILI). Here, we describe the use of kava, a drink traditionally consumed in Pacific Island cultures, causing acute ALT and AST elevation as assessed by an updated RUCAM score of 7. The increasing use of kava in Western society should prompt clinicians to be more aware of this rare cause of HILI. A 46-year-old man was referred to the emergency department with a 3-week history of fatigue, right upper quadrant pain, and profound transaminitis. He commenced kava 10 g daily 5 weeks prior to aid sleep, which was ceased 2 weeks prior due to his biochemical derangement. Blood tests revealed an ALT of 1546 U/L and an AST of 920 U/L. An autoimmune screen, viral serology, and liver ultrasound showed no abnormalities. A liver biopsy revealed foci of hepatocellular necrosis with scattered ballooning degeneration and apoptotic bodies

in the parenchyma, but normal underlying hepatic parenchyma without steatosis. Following cessation of kava, the liver enzymes improved without any other intervention. He was monitored as an outpatient and had no recurrence. The incidence of kava HILI may increase with its marketing; its exact mechanism is unknown. Ultimately, further research is needed to identify the pathogenesis of kava HILI. HILI is a significant cause of transaminitis, and clinicians should remain vigilant in patients presenting with nonspecific symptoms and a negative liver screen.

DOI: 10.1155/crgm/3914876
PMCID: PMC12748932
PMID: 41477654

18. **Severe kava withdrawal managed with phenobarbital**. Am J Emerg Med. 2025 Oct;96:298.e5-298.e7. doi: 10.1016/j.ajem.2025.06.016. Epub 2025 Jun 16.

    Bleifuss W, Boley S, Bardwell J, Goebel C, Wilkinson J.

    Piper methysticum, known as "kava", is a plant endemic to and historically consumed in the Pacific islands. The roots contain psychoactive kavalactones with sedating and anxiolytic effects. While often marketed for anxiety or as a safe alcohol alternative, dermopathy and more rarely hepatotoxicity are well described with heavy use. Reports of withdrawal are rare. The leaves of Mitragyna speciosa, also referred to as "kratom", contain psychoactive alkaloids with interactions at μ and δ-opioid receptors. Kratom is commonly used for its stimulant and opioid-like effects, for which dependence and withdrawal are much more well documented. A 45-year-old man presented to the emergency department (ED) with auditory and visual hallucinations, anxiety, insomnia, and diffuse muscle jerking. He had been heavily using a supplemental beverage containing both kava and kratom, but stopped several days prior. His primary physician initiated buprenorphine therapy for suspected kratom withdrawal. Bedside evaluation in the ED was concerning for ongoing GABAergic withdrawal in the setting of kava use. Phenobarbital was given with significant improvement in symptoms, with eventual transition to diazepam. He was discharged home several days later in good condition. Given the increasing popularity of herbal supplements including kratom, and more uncommonly kava, clinicians should be aware of their potential for abuse, dependence and severe withdrawal syndromes. Kratom may be managed in a fashion analogous to that of an opioid. While kava's pharmacologic properties remain poorly understood, withdrawal may be severe enough to warrant hospitalization. Phenobarbital or benzodiazepines may be considered as a potential therapeutic approach.

DOI: 10.1016/j.ajem.2025.06.016
PMID: 40541460 [Indexed for MEDLINE]

19. **Unveiling the Unexpected: A Case of Synergistic Drug Reaction to Cannabidiol**. Cureus. 2025 Aug 25;17(8):e90992. doi: 10.7759/cureus.90992. eCollection 2025 Aug.

    Balouch A, Muslim MO, Akram M, Haseeb SS, Chaudhary MN.

    The widespread use of cannabis derived products has raised concerns with regardto their side effect profile, particularly hepatotoxicity. This case centers around a 45-year-old female patient receiving therapeutic cannabis oil, who demonstrated an acute surge in hepatic transaminases after excluding common etiologies, such as paracetamol and recent flucloxacillin, as both are hepatotoxic. A subsequent improvement in hepatic parameters following discontinuation reinforces the potential for an existing association between cannabis oil and liver injury. Furthermore, this case highlights the need for clinicians to recognize cannabinoid products as potential hepatotoxins, especially in patients with unexplained hepatic dysfunction. Given the growing access to such products, rigorous oversight and research have become essential in identifying potential health hazards and ensuring consumer safety.

    DOI: 10.7759/cureus.90992
    PMCID: PMC12460714
    PMID: 41018322

20. **Diffuse Alveolar Hemorrhage Associated with Herbal Medicine: A Case Series and Literature Review**. Intern Med. 2025 Sep 1;64(17):2637-2640. doi:10.2169/internalmedicine.4960-24. Epub 2025 Mar 8.

    Tsuchiya K, Miyamoto R, Tsunoda T, Ito T, Akashi T, Oyama Y, Ikeda M.

    Although there have been several reports of drug-induced pneumonitis caused by herbal medicines in recent years, herbal medicine-induced diffuse alveolar hemorrhage (DAH) is rare. We herein report two cases of DAH associated with herbal medicines. Patient 1 developed dyspnea and hemoptysis after receiving jidabokuippo. Patient 2 developed a fever and dyspnea after taking otsuji-to. Both patients exhibited severe respiratory failure, and bronchoalveolar lavage revealed bloody fluid that confirmed the diagnosis of DAH. In both patients, discontinuation of

herbal medicines and corticosteroid therapy resulted in significant improvement. These cases highlight the potential risks of DAH associated with herbal medicines.

DOI: 10.2169/internalmedicine.4960-24
PMCID: PMC12463424
PMID: 40058862 [Indexed for MEDLINE]

21. **Herb-immunosuppressive drug interactions: Implications for kidney transplant recipients.** Fitoterapia. 2026 Jan;188:107039. doi: 10.1016/j.fitote.2025.107039. Epub 2025 Dec 16.

Santana L, de Oliveira Leal V, Leal PM, de Mattos Manhães L, Mafra D, Borges NA.

Advancements in immunosuppressive therapy have significantly improved long-term graft survival in kidney transplant recipients. Concurrently, the global use of medicinal plants and herbal medicines as complementary and alternative therapies has expanded, with many patients seeking to mitigate dverse effects and enhance their overall well-being. However, the simultaneous use of medicinal plants or herbal medicines alongside conventional immunosuppressive regimens presents significant clinical challenges due to the potential for pharmacokinetic and pharmacodynamic interactions. Many of these natural alternatives contain bioactive compounds that may modulate the metabolism and efficacy of immunosuppressants, either by enhancing or diminishing their therapeuticeffects. This modulation often occurs through the induction or inhibition of hepatic cytochrome P450 enzymes and drug transporters, leading to fluctuations in immunosuppressant blood concentrations. Such variations can predispose transplant recipients to graft rejection due to subtherapeutic drug levels or, conversely, to toxicity from supratherapeutic exposure. Beyond pharmacological interactions, contamination of herbal preparations with heavy metals poses an additional risk. Exposure to nephrotoxic metals has been linked to graft dysfunction and an increased risk of graft loss. This narrative review critically examines the current scientific evidence regarding the interactions between medicinal plants and/or herbal medicines and immunosuppressive therapies, highlighting the potential implications for kidney transplant recipients. Also, it discusses the impact on graft survival, patient safety, and the need for greater regulatory oversight in the use of herbal medicines among this vulnerable population.

DOI: 10.1016/j.fitote.2025.107039
PMID: 41412301 [Indexed for MEDLINE]

22. **Colocynth induced multiorgan toxicity: a case report.** J Med Case Rep. 2025 Oct 14;19(1):506. doi: 10.1186/s13256-025-05542-2.

Alemseged NM, Ibrahim MA, Sheikabdullahi MA.

BACKGROUND: Citrullus colocynthis, a plant traditionally used for its purgative properties, is known for its severe toxicity when consumed in excessive amounts. This case highlights the multiorgan toxicity of colocynth and underscores the need for increased public awareness to prevent such poisoning. The rapid onset of symptoms, absence of infectious causes, and prompt recovery with supportive care strongly support the diagnosis of colocynth-induced toxicity. It is the first reported case of colocynth poisoning from Eastern Africa. Given its widespread use in herbal medicine, this study raises awareness about its potential toxicity and contributes valuable clinical insights for managing similar cases in the future.
CASE PRESENTATION: A 64-year-old Black male Somali of Cushitic ethnicity ingested colocynth fruit to relieve constipation. Within 2 hours, he developed profuse bloody diarrhea, hematemesis, and altered consciousness. On admission, he presented with hypotension, sinus tachycardia, eukocytosis, acute kidney injury, and elevated liver enzymes. Diagnostic workup ruled out infections and other causes of colitis. Management included aggressive fluid resuscitation, antibiotics, and supportive care, leading to full recovery within 5 days.
CONCLUSIONS: This case highlights the multiorgan toxicity of colocynth, including gastrointestinal, hepatic, renal, and cardiovascular effects. It emphasizes the importance of recognizing the toxic potential of colocynth and the need for public education to prevent similar incidents. The rapid onset of symptoms and prompt recovery with supportive care underscore the clinical significance of this case.

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PMCID: PMC12522648
PMID: 41088384 [Indexed for MEDLINE]