Archives of Asthma, Allergy and Immunology

Volume - 7, Issue - 1

Research Article **Published Date:- 2023-08-29**

Causal Link between Human Blood Metabolites and Asthma: An Investigation Using Mendelian Randomization

Background: Asthma, a chronic inflammatory respiratory ailment, is characterized by variable airflow obstruction and heightened bronchial reactivity. Despite therapeutic advancements, a comprehensive comprehension of its underlying metabolic mechanisms remains elusive. Metabolomics has emerged as a powerful approach to investigating the complex connections between serum metabolites and disease pathogenesis. However, exploring the causal relationship between serum metabolites and asthma susceptibility demands meticulous examination to unveil potential therapeutic targets.
Methods: Mendelian randomization (MR) approach was explored to investigate the potential causal associations between serum metabolites and asthma risk. The main analysis employed the inverse variance weighted method, supported by supplementary approaches such as MR-Egger, weighted median, weighted mode, and sample mode. To enhance the strength and credibility of our results, we conducted sensitivity analyses encompassing heterogeneity testing, assessment of horizontal pleiotropy, and leave-one-out analysis. Additionally, pathway enrichment analysis was performed to further elucidate the results.
Results: We identified 18 known and 12 unknown metabolites with potential associations with asthma risk. Among known metabolites, seven exhibited protective effects (e.g., 4-acetamidobutanoate, allantoin, kynurenine, oxidized bilirubin*), while eleven were considered risk factors (e.g., ornithine, N-acetylornithine, alanine). Through the integration of four additional MR models and sensitivity analyses, we revealed a connection between 4-acetamidobutanoate and approximately 6% lower asthma risk (OR = 0.94, 95% CI: 0.90–0.98).
Conclusions: Our MR analysis uncovered protective and risk-associated metabolites, alongside 12 unknown metabolites linked to asthma. Notably, 4-acetamidobutanoate demonstrated a nominal 6% reduction in asthma risk, highlighting its potential significance.

Research Article **Published Date:- 2023-04-25**

Effectiveness of levocetirizine in treating allergic rhinitis while retaining work efficiency

The manifestation and severity of Allergic rhinitis symptoms show diurnal variation which negatively impacts the patient's quality of life, day-to-day activities, and productivity at the workplace. The symptoms worsen at night or early morning and therefore administration of levocetirizine towards evening may be more acceptable. Consequently, the present study evaluated the effectiveness of evening Levocetirizine administration on 24-hour symptom control, Physical and mental health, and daytime somnolence in patients with allergic rhinitis the study was a prospective, open-labeled, single-arm, two-center, observational study among patients with allergic rhinitis. Levocetirizine was prescribed as 5 mg or 10 mg once a day evening oral dose for at least 7 days before sleep. The 24-hour total nasal symptom scores (TNSS) for self-reported signs and symptoms of allergic rhinitis were recorded. Additionally, study evaluations included the SF-12 scale (Quality of Life), Stanford Sleepiness Scale (degree of sleepiness), and work productivity and activity impairment (WPAI) questionnaires. These evaluations were performed at baseline (Day 0) and at scheduled intervals of Day 1 (24-hour), Day 3, and Day 7. Results demonstrated that evening administration of Levocetirizine facilitates 24-hour symptom control while having no significant effect on daytime somnolence, daily activities, and the work productivity of patients.

Research Article **Published Date:- 2023-02-01**

Treatment protocol with alternative iron drugs in patients with an allergic reaction during iron replacement therapy

---

In our study, we aimed to show that alternative iron salts containing different additives are safe to use in patients who have type 1 hypersensitivity reactions to iron drugs and need iron replacement therapy.
Materials and methods: Between January 2022 and June 2022, patients who had previously developed type 1 hypersensitivity reactions with iron preparations and needed iron replacement were included in the study. The study was designed retrospectively. Skin tests were first performed on patients to demonstrate a type 1 hypersensitivity reaction. If skin tests were negative and there was no history of life-threatening anaphylaxis, oral provocation tests were continued. If the absence of variability in symptoms and perimeter values, the drug allergy test was considered negative.
Results: Twenty-two patients were included in the study. Twenty-one of the patients were female and one was male. Iron deficiency anemia was found in nine patients, and low iron stores in thirteen patients without anemia were found. Type 1 hypersensitivity reaction developed with Iron 3 Carboxymaltose in 7 patients, Iron 2 Sulfate in 5 patients, Iron 2 Glycine in 4 patients, Iron 3 Hydroxy Polymaltose in 4 patients, Iron 2 Fumarate in 1 patient and Iron 3 Hydroxide Sucrose in 1 patient. Allergy tests with all alternative iron drugs containing additional additives were negative.
Conclusion: If patients with allergic reactions cannot be referred to allergy clinics, we think that oral iron salts with different additives can be used after the first dose is given in the hospital under general anaphylaxis precautions. We show that oral iron salts containing different additives can be safely used.