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Excluding adverse drug reactions via HLA genetic test, an interesting case

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Adverse drug reaction (ADRs) is a problem of interest worldwide; it is an important cause of admission to hospital and affect individual health. At the early 1970, the WHO defined ADRs as "a response to a drug that is noxious and unintended and occurs at doses normally used in man for the prophylaxis, diagnosis or therapy of disease, or for modification of physiological function". The mainly noticed ADRs are hypersensitivity reactions, characterized by variant symptoms including cutaneous reactions, bronchospasm, and multiple organ involvement up to anaphylaxis, with time to appear including few hours up to weeks. ADRs pathophysiological explanation still not quietly understood current approaches include immune reaction via interactions with human leucocyte antigens (HLA); the pleomorphic glycoproteins that are located on chromosome six, which are of an increasing interest in the predication & diagnosis of ADRs.

My case Mr. JM, 43 years old male present to internal medicine ward at the seventh. June 2019 (with a previous history of cefotaxime allergy), after he developed generalized skin rash and high-grade fever after ingesting his medications (allopurinol & unspecified anti-inflammatory drug; perhaps diclofenac) lasted for 3 days. After 3 days of hospital management (Intravenous fluids, Parenteral steroids, antihistamines & topical soothing agent) he was discharged with wide spread of red skin rash on his trunk, upper limbs & chest. Our physicians suggest that pt. developed Steven Johnson syndrome, later medical follow up another dermatologist told him that his illness was merely shingles.

I asked the pt. for his agreement to be pictured by my colleagues [below], and to do him DNA extraction & genetic test to reveal his case on my own behave. After his agreement, he was subjected to HLA typing with polymerase chain reaction at April 2021, his HLA genotypes were HLA-A 01:01/02:02 & HLA-B 15:10/73:01. Both HLA-genotypes were not related to allopurinol induced drug reactions, which confer his late diagnosis with shingles.

Keywords: Adverse drug reactions, HLA genotype, Allopurinol, Cefotaxime

Figures: Mr JM cutaneous reaction at day two of management, after hospital admission

Biography

Alaa F. Hassan, a pharmacist has completed M.Sc. Pharmacology at the age of 28 years from Al-Mustansiriyah University, college of Medicine. She is the head of drug information centre & pharmacovigilence member. He has published two papers in reputed journals, 1 book chapter and has been serving as a peer-reviewer at request since 2019.

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Optimum harvesting season for selected medicinal plants claimed effective in the management of cancer in Malawi

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Cancer is the leading cause of morbidity and mortality in Malawi and some people use herbal and traditional medicines for its management. The study aimed at assessing the optimum harvesting season of selected medicinal plant species claimed effective in the management of cancer in Karonga district of Malawi. Cross-sectional study was used to identify medicinal plants commonly used for the management of cancer in the district.

Spectrophotometric methods were used to determine total phenolic content (TPC), total flavonoids content (TFC), total alkaloids content (TAC) and antioxidant activity (AA). High Perfomance Liquid Chromatography Diode Array Detecter (HPLC DAD) was used to fingerprint phenolic compounds in the extracts of selected medicinal plant species at different seasons of the year. Senna singueana, Melia azedarach, Moringa oleifera and Lannea discolour were commonly used medicinal plant species.

Levels of phytochemicals and AA in the barks of L. discolor and leaves of S. singueana, M. azedarach, and M. oleifera were significantly influenced by seasonal variation. Barks of L. discolour exhibited high levels of (+)-catechin, rutin, TPC, TFC, TAC and AA during hot-dry season (summer) in the month of October. Leaves of S. singueana showed high levels of sinapic acid, ferulic acid and 2,4 dihydroxybenzoic acid which were predominant phenolic compounds during hot-wet season in the month of January. Senna singueana, M. oleifera and M. azedarach leaves exhibited significant high levels of TPC, TFC, TAC and AA in hot-wet season (rainy).

It is concluded that hot-dry season is optimum for harvesting barks of L. discolour while hot-wet season is optimum for harvesting leaves of S. singueana, M. oleifera and M. azedarach for pharmacological use. Further studies of biological activities including tests on cancer cell lines for anticancer activity of the extracts, isolation and characterisation of bioactive compounds responsible for activity are recommended.

Biography

Boniface Mwamutope is currently working in the Department of Toxicology at Kamuzu College of Health Sciences (KUHES), Malawi. His research interest manly focusses on Medicinal plants.

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