Hydrochlorothiazide Induced Cutaneous Vasculitis – A Case Report

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Background: Cutaneous vasculitis, also known as leukocytoclastic vasculitis, is a condition characterized by inflammation of the small blood vessels in the skin. This inflammation leads to damage of the blood vessel walls, resulting in skin lesions, purpura, and ulcerations. While cutaneous vasculitis can occur due to various causes, including infections, autoimmune disorders, and malignancies, drug-induced cutaneous vasculitis is a significant and increasingly recognized cause. Drug-induced cutaneous vasculitis is a relatively rare condition, with an estimated incidence of 1-3 cases per 100,000 persons per year. However, this condition is likely underreported, and the true incidence may be higher.
Various drugs have been implicated in causing cutaneous vasculitis, including:
- Antibiotics (e.g., penicillins, sulfonamides)
- Nonsteroidal anti-inflammatory drugs (NSAIDs) (e.g., ibuprofen, naproxen)
- Anticonvulsants (e.g., phenytoin, carbamazepine)
- Diuretics (e.g., hydrochlorothiazide)
- Chemotherapeutic agents (e.g., cyclophosphamide, methotrexate)
The exact mechanisms of drug-induced cutaneous vasculitis are not fully understood. However, it is thought that drugs can trigger an immune response, leading to the formation of immune complexes that deposit in the blood vessel walls, causing inflammation and damage. Clinical Presentation of drug-induced cutaneous vasculitis typically presents with skin lesions, including –
Purpura
- Petechiae
- Ulcerations
- Nodules
- Plaques
These lesions are often accompanied by systemic symptoms such as fever, fatigue, and arthralgias. Early recognition of drug-induced cutaneous vasculitis is crucial to prevent long-term complications, such as scarring, disability, and even mortality. A thorough medical history, physical examination, and laboratory tests are essential for diagnosis.

Discussion: A 62 year old male diagnosed with hypertension with type II diabetes mellitus with asthma since eight years for which he had been receiving allopathic system of medications. His medical consultant had prescribed tablet hydrochlorothiazide 12.5mg BD, tablet glimepride 2mg in combination with metformin 500 mg BD, Duolin inhaler SoS, Seroflow inhaler BD . His allergic history revealed that he is allergic to pencillin and diclofenac sodium. His vital physiological parameters such as blood pressure, blood sugar, oxygen saturation , pulse rate were not under control for the last one year which had been fluctuated to the maximum extent . His occupation history reveals that he worked has first division clerk in academic institution for the last thirty five years and retired from this job for the last four years. He was married and blessed with two children, among which both of them got married since ten years back. His family history reveals that his father was retired bank manager from SBI, where his father is known case of hypertension with gout since 25 years for which he had been receiving allopathic system of medications and his late mother died due to cardiac arrest. His over the counter medication history reveals that he was purchasing antacids, antihistamines, analgesic, and expectorants depending upon the symptoms existing at any point of time. His

medication adherence was good, but unfortunately he had developed red patches which become purpuric in lower leg after three to five days of severe itching and irritation.
He noticed this dermatological reaction since one moth back and scared to know the underlying cause of his health, when he approached to his family medical consultant , comprehensive medical history was taken and based on the patient reply, this case was suspected with drug induced cutaneous vasculitis? Among the received medications only hydrochlorothiazide was suspected to be offending agent, while other prescribed medications was safe enough to be ruled out for cutaneous vasculitis. His medical consultant on physical examination gave medical impression as red macules to urticated papules . Differential diagnosis of this patient revealed that his medical consultant had ruled out vascultiis associated with arteries , veins and capillaries followed by thrombocytopenic purpura , pigmented purpuric dermatosis . This patient was suggested to undergo skin biopsy and skin biopsy report reflected in this case was leucocytoclastic vasculitis without immunoglobulin A deposition . Based on this skin biopsy report doctor gave medical impression as drug induced cutaneous vascultiis . There are lot of case reports to suggest that thiazides can cause cutaneous vasculitis (Gammeltoft and Kristensen 1982) , but time temporal relationship of causing cutaneous vascultiis is unknown. This patient had been suggested to dechallenge this offending agent and observe for the same. The tablet hydrochlorthiazide 12.5 mg BD had been replaced by Tablet 5 mg Amlodopine for treating hypertension by his medical consultant.
Several case reports and studies have documented the association between hydrochlorothiazide (HCTZ) and cutaneous vasculitis, with symptoms resolving upon discontinuation of the medication Alonso et al. (2011). A retrospective analysis of 15 cases of HCTZ-induced cutaneous vasculitis found that the median time to onset of symptoms was 6 months after starting HCTZ, and that skin lesions resolved within 2-6 weeks after discontinuing the medication Patel et al. (2017). These findings suggest a causal relationship between HCTZ and cutaneous vasculitis.

Conclusion: This case gives safe medication history for all the medications for which he had been received for the last 10 years for all the chronic medical conditions. Based on comprehensive medication history, it had been concluded that hydrochlorothiazide was culprit in this medical case and it was immediately dechallenged to ascertain that this dermatological reaction was subsided.

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