

Diuretics: Cross sensitivity

Allergic Rx: Cross-sensitivity with **sulfonamide drugs may occur with all diuretics**, with the **exception of ethacrynic acid**; however, the frequency with which cross-sensitivity occurs is much less common than was first thought and appears to be due to a predisposition to allergic reactions, rather than to specific cross-reactivity with sulfonamide-based drugs; thus, patients with a sulfonamide allergy that was not "extreme" (such as Stevens-Johnson syndrome or a necrotizing vasculitis) in its original presentation can cautiously receive a thiazide or a loop diuretic. Photosensitivity dermatitis rarely occurs secondary to thiazide or furosemide therapy. **HCTZ more commonly causes photosensitivity than do the other thiazides**. Diuretics may rarely cause a more serious generalized dermatitis and, at times, even a necrotizing vasculitis.

Severe necrotizing pancreatitis is a rare, but serious and potentially life-threatening, complication of thiazide therapy. Acute allergic interstitial nephritis with fever, rash, and eosinophilia, although an uncommon complication of diuretics, is one that may result in permanent renal failure if the drug exposure is prolonged. Allergic interstitial nephritis may develop abruptly or some months after therapy is begun with a thiazide diuretic or, less commonly, it can occur with furosemide. **Ethacrynic acid** is chemically dissimilar to the other loop diuretics and can be safely substituted in diuretic-treated patients who experience any of these allergic complications.

Malignancy: The risk of **renal cell carcinoma** appeared to be related not to the average daily diuretic dose, but rather to the duration of the diuretic treatment. Unlike the association between diuretics and renal cell carcinoma, no association has been found between diuretic therapy and breast cancer.

Drug effects: Loop diuretics can potentiate aminoglycoside nephrotoxicity and digitalis toxicity. Plasma lithium (Li^+) concentrations can increase with thiazide therapy. However, some diuretics, such as chlorothiazide or furosemide, with significant carbonic anhydrase inhibitory, can increase Li^+ clearance, thus leading to a fall in blood levels. The combination of indomethacin and triamterene may be particularly dangerous, in that acute renal failure can be precipitated.

Pearl: Diuretic-related side effects, particularly with loop and/or K^+ -sparing agents, are not uncommon causes for hospitalization due to hypotension, renal impairment, electrolyte disturbances, and gout in the context of hospital admissions prompted by adverse drug reactions

Question:

The following might be related to chronic use of diuretic therapy:

- a. Renal cell carcinoma
- b. Breast cancer
- c. Gastric cancer
- d. Acute thrombophlebitis

Answer: A. The risk of renal cell carcinoma appeared to be related not to the average daily diuretic dose, but rather to the duration of the diuretic treatment