H2 Receptor Blocker Side Effects

H_2 blockers are antagonists at the histamine H_2 receptor, which are found within the parietal cells of the stomach. These drugs act to decrease acid secretion. Particular medications within this drug class causing notable side effects are ranitidine and cimetidine, which both cause decreased creatinine clearance via inhibition of tubular secretion. Cimetidine, however, crosses the blood-brain barrier and may lead to headache, dizziness and confusion. Cimetidine is also an anti-androgen, which works as a competitive antagonist at DHT receptors. Furthermore, it is a potent inhibitor of the cytochrome P450 enzyme system, and may decrease the metabolism of other medications.

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Side Effects

Decrease Creatinine Clearance

Down-arrow Cr-eam Clearance

The H2 blocking medications, cimetidine and ranitidine inhibit tubular transport of creatinine, preventing its clearance. This leads to increased serum creatinine levels.

Cimetidine

Cement-teddy

Cimetidine is a specific H2 blocking medication, which is known to have side effects of crossing the blood-brain barrier, anti-androgenic effects and potent inhibition of cytochrome P450.

Crosses Blood-Brain Barrier

Blood Brain Barrier

Cimetidine crosses the blood-brain barrier, and can lead to effects such as confusion, headache and dizziness. In addition to crossing the blood-brain barrier, cimetidine has the potential to cross the placenta and affect the fetus.

Anti-Androgen

Ant-tie and Android-genie

Cimetidine has anti-androgenic properties, acting as a competitive antagonist at DHT receptors. This leads to exaggerated effects of estrogen, manifesting as galactorrhea and amenorrhea in women, and impotence and gynecomastia in men.

Inhibits Cytochrome P450

Inhibiting-chains on Side-toe-chrome Pea-450 rocket

Cimetidine is a potent inhibitor of the cytochrome P450 enzyme system. Thus, multiple drug interactions may occur with its administration, as it decreases metabolism of particular medications.