Drug Interaction Check

DISCLAIMER: Educational purposes only.

Drugs

Warfarin, Aspirin, Omeprazole

Interactions

Drug 1	Drug 2	Severity	Mechanism	Management

Warfarin	Aspirin	Major	Both drugs increase the risk of bleeding. Warfarin is an anticoagulant (vitamin K antagonist), and Aspirin is an antiplatelet agent. Their combined effect significantly impairs hemostasis and increases the risk of hemorrhage, particularly gastrointestinal bleeding.	Concurrent use should generally be avoided due to a substantially increased risk of serious bleeding. If co-administration is clinically necessary (e.g., specific cardiovascular indications), the patient must be closely monitored for signs of bleeding, and the International Normalized Ratio (INR) should be checked frequently. Use the lowest effective dose of aspirin. Gastric protection (e.g., with a PPI like omeprazole) may be considered, but this introduces another interaction.

Warfarin	Omeprazole	Moderate	Omeprazole is a potent inhibitor of cytochrome P450 (CYP) isoenzyme CYP2C19. Warfarin (specifically R-warfarin, a component of racemic warfarin) is metabolized by CYP2C19, and to a greater extent, by CYP2C9. Inhibition of CYP2C19 can lead to a decreased metabolism of warfarin, resulting in increased plasma concentrations of warfarin, an elevated INR, and an increased risk of bleeding.	Patients receiving warfarin should have their INR closely monitored when omeprazole is initiated or discontinued, or when the dose is changed. Warfarin dosage adjustments may be necessary to maintain the target INR range. Consider using an alternative proton pump inhibitor (PPI) with less CYP2C19 inhibitory potential or an H2-receptor antagonist if appropriate.

Aspirin	Omeprazole	Minor	Omeprazole, a proton pump inhibitor, reduces gastric acid secretion. This can beneficially reduce the risk of gastrointestinal ulcers and bleeding associated with aspirin use, particularly in patients at high risk or on long-term aspirin therapy. There is a theoretical concern that omeprazole's inhibition of CYP2C19 could reduce the antiplatelet effect of other drugs like clopidogrel (a prodrug), but this interaction is not clinically significant for aspirin's antiplatelet effect.	Co-administration is generally acceptable and often recommended to prevent gastrointestinal complications associated with aspirin, especially in patients with risk factors for upper GI bleeding. Monitor for the efficacy of GI protection.

Recommendations

- The combination of Warfarin and Aspirin carries a high risk of bleeding. This combination should be used with extreme caution and only if the clinical benefit clearly outweighs the substantial bleeding risk. Intensive INR monitoring and close observation for any signs of bleeding are essential.

- When Omeprazole is added to or removed from a Warfarin regimen, anticipate changes in INR. Frequent INR monitoring and potential Warfarin dose adjustments are crucial to prevent supra-therapeutic anticoagulation and bleeding.
- Omeprazole can help mitigate the gastrointestinal side effects of Aspirin. However, in the context of concurrent Warfarin use, the primary concern remains the heightened bleeding risk from the Warfarin-Aspirin interaction and the potential potentiation of Warfarin by Omeprazole.
- A thorough risk-benefit assessment should be conducted by a healthcare professional for this drug combination. Consider alternative therapies or dose adjustments to minimize interaction risks.