NSAIDs, aspirin, clopidogrel, and glucocorticoids: Risk and prevention of UGI bleeding

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NSAIDs usage, mainly via inhibiting COX-1 and COX-2 function, increases the risk of PUD/PUB. Hp eradication reduces PUD/PUB in overall population receiving NSAIDs, it is especially effective in NSAIDs naïve patients. Coxibs (selective COX-2 inhibitors) decrease UGI events, but not in patients with previous ulcer bleeding (high risk) or concomitant use of aspirin. PPI is effective and better than H2RA in primary or secondary prevention of NSAIDs or Coxibs related PUD/PUB in general population or risk population. NSAIDs plus PPI is comparative to Coxibs in the occurrence of NSAIDs-related PUD/PUB in general population or high-risk patients. Gastroprotective strategy in NSAIDs users includes: (1) combine NSAIDs plus PPI or misoprstol, (2) shift to Coxibs, (3) Hp eradication, (4) take non-NSAID medication.

Low dose of aspirin (81-325 mg/qd) increases UGI bleeding risk about 2-fold, with annual incidence of 0.2-0.5 %, number need to harm at 1 year is about 200-500. Clopidogrel (75 mg daily), as an ADP receptor antagonist, does not cause endoscopicllay evident mucosal injury in short-term (8 days) healthy subjects. Clopidogrel decreases the risk of UGI bleeding, but not in patients with previous ulcer bleeding/high risk (Clopidogrel or other ADP receptor antagonist was found to delay ulcer healing). Combination of aspirin and clopidogrel further reduces CV risk but increases the risk of UGI ulcer/bleeding than either agent alone. Use of H2RA partially decreases aspirin related UGI ulcer/bleeding in general risk patients, but not in high risk patients. Use of PPI effectively decreases aspirin and/or clopidogrel related UGI ulcer/bleeding in general and high risk patients. Hp eradication in patients with a history of ulcer disease is recommended before starting chronic antiplatelet therapy.

Whether glucocorticoids induce PUD/PUB remains uncertain in previous studies. Recently, a meta-analysis of 159 clinical trials showed that glucocorticoids increase the risk of GI bleeding in hospitalized patients. A nationwide population-based case-crossover study showed that short-term use (< 28 days) of glucocorticoids increases the risk of PUB. Animal and in vitro studies showed that glucocorticoids delay gastric ulcer healing by inhibiting gastric epithelial cell proliferation and angiogenesis of ulcer margin.

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