

ANTIPLATELET DRUGS

① USES OF ANTIPLATELET DRUGS.

Aim: to prevent intravascular thrombosis and embolism with minimal risk of hemorrhage.

The intensity of antiplatelet therapy is selected according to thrombotic influences present in a patient, i.e., those CAD/risk factors for stroke are generally given a single drug (aspirin/clopidogrel) and for indications like ACS, maintenance of vascular recanalization, stent placement, vessel grafting, etc. potent inhibition of platelet function ~~requirement~~ required. This is provided by combining two antiplatelet drugs which act by diff mechanisms, i.e. DAPT.

① CADs

Aspirin: 75-100 mg/day of aspirin can be given to all individuals with evidence of CADs/with risk factors.

* It reduces incidence of fatal as well as nonfatal MI, but increases risk of cerebral hemorrhage.

- Clopidogrel is an alternative to aspirin in symptomatic patients of ischemia.

② Acute Coronary Syndromes [ACS] (Includes UA, NSTEMI, STEMI)

- Soluble aspirin (325 mg oral) and a LMW heparin (SC) are given at presentation to all patients with ACS.

Unstable Angina (UA);

- Aspirin reduces risk of progression to MI & sudden death.
- Clopidogrel / Prasugrel, generally combined with aspirin, or may be used as alternatives if aspirin cannot be given.

Imp't: For max protection, antiplatelet drugs are supplemented with LMW heparin & followed by warfarin.

NSTEMI → Patients of NSTEMI who are managed without PCI / thrombolysis are generally put on combination of aspirin + clopidogrel + ticagrelor which is continued for upto 7 yr.

STEMI: Primary PCI with / without stent placement is the procedure of choice for all STEMI as well as high risk NSTEMI patients who present within 12 hrs.

- * Prasugrel / ticagrelor + aspirin = Antiplatelet regimen most commonly selected for patients who are to undergo PCI.
- * Prasugrel is preferred over clopidogrel in diabetes.

* G_{IIb}/III_a antagonists are most powerful antiplatelet drugs. They are combined with aspirin for high risk patients undergoing PCI.

Abciximab/epitifibatide/tirofiban infused i.v along with oral aspirin and so heparin markedly reduce incidence of restenosis & subsequent MI after coronary angioplasty. They are infused for max of 72 hrs.

* Aspirin / Clopidogrel / ticagrelor are routinely given to ACS patients treated with thrombolysis.

* CABG is also covered by intensive antiplatelet regimen including aspirin + G_{IIb}/III_a antagonists / prasugrel

③ Cerebrovascular Disease.

* Antiplatelet drugs cannot alter course of stroke due to cerebral thrombosis.

* However, aspirin has reduced incidence of TIAs and stroke in patients with TIA.

* Aspirin / Clopidogrel is given to all patients of TIAs who are not to be treated with anticoagulants.

* Though short term use of aspirin + clopidogrel may be beneficial, long term use of combination increases risk of hemorrhage.

④ Prosthetic Heart Valves and Arteriovenous Shunts.

- * Antiplatelet drugs + warfarin - ↓ formⁿ of micro-thrombi on artificial heart valve and incidence of embolism.
- * Aspirin is clearly effective but ↑ risk of bleeding due to warfarin.
- * Dipyridamole does not ↑ bleeding risk, but incidence of thromboembolism is reduced when it is combined with an oral anticoagulant.
- * Antiplatelet drugs also prolong patency of chronic arteriovenous shunts implanted for hemodialysis and vascular grafts.

⑤ Venous Thromboembolism.

Anticoagulants are routinely used in DVT & PE.

⑥ PERIPHERAL VASCULAR DISEASE.

Aspirin / Clopidogrel may produce some improvement in intermittent claudication & ↓ incidence of thromboembolism.