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Commentary

Drug Interactions of Anti-Thrombotic Drugs and its Side Effects

Roberto Mayor*

Department of Pharmacy, University College London, London, United Kingdom

DESCRIPTION

The main components of a thrombus are fibrin and platelets. Fibrin is the protein that forms the mesh that traps red blood cells, and platelets, a type of blood cell form the clumps. Fibrin is the most important component of blood clots that form in veins, and platelets is the most important component of blood clots that form in arteries causing heart attacks and strokes by blocking blood flow to the heart and brain, respectively. Although likely, fibrin also plays an important role in arterial thrombosis. A thrombus is a blood clot found in the cardiovascular system. The cardiovascular system consists of the heart and blood vessels, which are responsible for circulating blood throughout the body. Blood clots can cause serious health problems depending on where they form in the body. They form in any blood vessel, including the heart and brain, and cause heart attacks and strokes. A blood clot is also dangerous if it forms in one area and then breaks and travels to another area. A type of blood clot that breaks and moves is called an embolus. When a thrombus forms, it becomes something like a plug in a tube and it is called as vascular plug. Anticoagulants are drugs that help prevent blood clots from forming by preventing the formation of fibrin. Fibrin is a type of protein involved in the formation of blood clots. Examples of anticoagulants are heparin and warfarin, known by the trade name coumadin. The second type of antithrombotic drug is the class of antiplatelet drugs, which prevent blood clots from forming by preventing blood components called platelets from clumping together and sticking to passing cells and forming clogs. Examples of drugs with anticoagulant properties include aspirin and clopidogrel.

The anticoagulants heparin and dicoumarol were discovered first discovered by studying solidification products of matter. These drugs have very different anticoagulant effects in patients, their effects must be measured by special blood tests and doses adjusted accordingly. Heparin is fast-acting and is given intravenously. Warfarin is taken in tablet form, but its anticoagulant effect is delayed by several days, so a patient who is hospitalized and an anticoagulant has given heparin was discharged from the hospital after seven days. To prevent the ischemic stroke by using medical therapy with antithrombotic agents controls the risk factors for stroke. Antithrombotic therapy is associated with significant medical complications, particularly bleeding. Low-dose aspirin (acetylsalicylic acid) has been shown to be as effective as high-dose aspirin in the prevention of stroke, with fewer adverse bleeding events. Aspirin has been shown to be as effective as warfarin in the prevention of non-cardio embolic ischemic stroke, with significantly fewer bleeding complications. Ticlopidine may be more effective in preventing stroke than aspirin, but is associated with unacceptable hematological complications.

Anticoagulants play an important role in the treatment and prevention of thromboembolic and cardiovascular disease. Even an overdose rarely causes life-threatening bleeding. Anticoagulants are widely used for the prevention and treatment of venous or arterial thrombosis. Anticoagulants consist of a chemically heterogeneous group of drugs that act at different stages of the clotting cascade. Heparin and heparin-based anticoagulants are indirect anticoagulants that bind to antithrombin and enhance the inhibitory capacity of this natural anticoagulant. Coumarin derivatives (such as warfarin) interfere with the hepatic synthesis of clotting factors (vitamin K antagonists).

In the case of overdose, treatment should be based on clinical evaluation of the patient, consideration of the nature of the overdose and evaluation of bleeding time, hematocrit and platelet concentrations. Antidotes to aggressive blood sampling should be given if possible. However, therapeutic administration of anticoagulants requires patients to maintain some degree of anticoagulation. In such cases, careful waiting management should be coordinated in collaboration with physicians who are familiar with trends in patient therapy monitoring. All anticoagulant overdoses should take by consultation with the Poison Control Center.

Correspondence to: Roberto Mayor, Department of Pharmacy, University College London, London, United Kingdom, E-mail: r.mayor@ucl.ac.uk

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