Correspondence

Drug Interaction between Acenocoumarol and Linezolid: Report of a Case

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Sir,

Acenocoumarol, commonly known in India by its trade name of Acitrom® is a drug commonly used for various indications. It is an oral vitamin K antagonist like Warfarin and is used in conditions like deep vein thrombosis, pulmonary embolism or cardiac thrombus.

Like warfarin, acenocoumarol is also known for many drug interactions. Antibacterial agents like cotrimoxazole or penicillin congeners are especially important as they may cause overanticoagulation.¹ Similar interactions have been reported with macrolides too.²

We had a 61 year old man with non-Hodgkin’s lymphoma who presented with right sided femoral vein thrombosis. He was started on oral acenocoumarol (2 mg OD) with subcutaneous low molecular weight heparin. On 2nd day after starting this, his prothrombin time was 18.9 seconds with INR of 1.3. Then, as he developed a skin ulcer positive for staphylococcus, he was started on oral linezolid 600 mg BD. He was getting no other anti-microbial agents. His other drugs were frusemide, paracetamol and ranitidine. After three more days, repeat prothrombin time came as 52 seconds with INR of 5.2. There was no bleeding manifestation. Immediately his acenocoumarol dose was reduced to 1 mg OD and linezolid was stopped. The prothrombin time reduced to 21 seconds (INR: 1.8) after two days. Since the other drugs used here (frusemide, paracetamol, ranitidine) have not been reported to have significant interactions with acenocoumarol, linezolid was the most likely culprit for sudden increase in INR.

Linezolid is a commonly used antimicrobial agent in hospitals. There are only a few reports of drug interactions between warfarin and linezolid³. Earlier it was said that linezolid does not affect the metabolism or protein binding of warfarin. But recent reports have shown significant rise in INR when patients received both warfarin and linezolid³. There is no specific report with acenocoumarol. Linezolid is considered a comparatively safe drug because it undergoes non-enzymatic degradation. Hence chance of enzyme blockage is very low.³ Also, linezolid has very low protein binding. Hence, displacement of warfarin from plasma protein binding site is also unlikely. The exact mechanism of increase in INR after linezolid administration is not known. But one hypothesis says that linezolid may affect vitamin K producing bacteria in the human intestine. This lowering of vitamin K may be a factor in rise in INR.⁴

Clinicians should always exert extra caution when prescribing vitamin K antagonists. Potential drug interactions should always be ruled out and INR checked frequently. This report shows that along with other antibiotics like macrolides, linezolid should also be used with caution in patients receiving acenocoumarol or warfarin. This specific drug interaction has not been reported from India yet.

References