

Use of antithrombotic therapies falls short of US guidelines

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Durham, NC - Antithrombotic therapies are significantly underused in US hospitals, a new analysis suggests [1]. **Dr Victor F Tapson** (Duke University, Durham, NC) and colleagues say poor adherence to guidelines governing the use of warfarin, aspirin, and heparin for cardiovascular, pulmonary, and orthopedic conditions puts "an unacceptable number" of patients unnecessarily at risk.

Tapson et al's paper summarizing the **National Anticoagulation Benchmark and Outcomes Report** (NABOR) appears in the July 11, 2005 issue of *Archives of Internal Medicine*.

The investigators used data from inpatient medical records at 38 US hospitals, of which 21 were teaching hospitals. They randomly selected 3778 patients who had been treated for atrial fibrillation (AF), acute MI (AMI), deep vein thrombosis (DVT), pulmonary embolism (PE), or orthopedic surgery (total knee replacement [TKR], total hip replacement [THR], or hip-fracture surgery).

Use of appropriate antithrombotic medications varied by medical condition. Among patients with atrial fibrillation deemed to be at high risk for stroke, just over half received warfarin and one in five received neither warfarin nor aspirin.

AF treatment

Indication	Warfarin (%)	Aspirin (%)	Warfarin plus aspirin (%)
High-risk AF	34.4	24.7	20.3

Of AMI patients, three quarters received aspirin—"the preferred agent for the secondary prevention of vascular events and death after AMI"—at hospital admission, whereas of patients diagnosed with DVT, PE, or both, almost 60% received unfractionated heparin and slightly less received low-molecular weight (LMW) heparin.

DVT/PE treatment	Unfractionated heparin (%)	LMW heparin (%)
Indication		
DVT, PE, or both	59.8	56.1

By contrast, in orthopedic patients, only 14.4% received "inadequate prophylaxis" (either aspirin only or no prophylaxis).

Orthopedic surgery treatments, by surgery type	Warfarin (%)	LMW heparin (%)	Unfractionated heparin (%)	Aspirin only (%)
Surgery type				
TKR	50.8	45.5	6.7	7.8
THR	48.6	45.4	4.9	8.5
Hip fracture	25.4	45.4	20.6	8.9

Risks overestimated?

"I think the bottom line is that we could do a bit better," Tapson told *heartwire*, although he acknowledged that physicians in some fields seemed to be doing a better job than others. "If you look at the total-joint-replacement population, that is one of the areas where antithrombotic prophylaxis has been studied the most extensively, [and] orthopedic surgeons actually do a pretty good job with prophylaxis. They realize that LMW heparin is more effective than standard heparin for prophylaxis and that Coumadin is an acceptable method of prophylaxis although probably not ideal, and most recognize that aspirin is not appropriate for prophylaxis."

By contrast, he said, antithrombotic prophylaxis in AF was underutilized. In addition, Tapson said, "in the DVT-treatment population, I'm surprised in the US that we're not now using 90% LMW heparin for treatment of DVT and PE, because we know it has clear advantages of better bioavailability and lower rates of heparin-induced thrombocytopenia. Yet we're still slow to accept some of these new modes of therapy."

The authors acknowledge that adherence to guidelines varies by physician specialty, as does "knowledge, attitudes, and beliefs and system inefficiencies, skewed incentives, organizational culture, or deference to patient preference." If there is one overarching explanation for poor adherence to guidelines, says Tapson, "it might be that physicians and medical personnel tend to fear anticoagulants, and they may not have done an adequate risk/benefit assessment. We need to respect anticoagulants, but in fact, the risk certainly at prophylactic doses is generally pretty negligible. For therapeutic anticoagulation, for example for AF, there are risks, but the benefits often outweigh the risks."