

Major Bleeds on Warfarin More Likely as BMI Rises: Analysis

Warfarin competitively depleting functional vitamin K reserves and hence reduces synthesis of active clotting factors. Specially coagulation factors II, VII, IX, and X, as well as proteins C and S, which requires the presence of vitamin K.

Warfarin used for Prophylaxis and treatment of venous thrombosis, pulmonary embolism, and thromboembolic disorders; prevention and treatment of thromboembolic complications in patients with prosthetic heart valves or atrial fibrillation; reduction of the risk of death, recurrent MI, and thromboembolic events such as systemic embolization or stroke after MI; has also been used for the prevention of recurrent arterial ischemic stroke and TIAs.^[1]

On *May 08, 2015* some analysis showed Major Bleeds on Warfarin More Likely as BMI Rises. SAN FRANCISCO, CA — in a small, 1-year study of patients receiving warfarin, obese patients had an 84% greater risk than nonobese patients of developing a major bleed that required hospitalization^[2].

This single-center, retrospective study showed that "there is a tendency for patients who are obese to bleed while on Coumadin, because they require a higher dose and a longer time to become therapeutic on that dose," the results suggest that body-mass index (BMI) may predict bleeding events in patients on **warfarin**.

Moreover, few studies have examined the relationship between **warfarin** and bleeding events in obese patients. Dr Adedotun A Ogunsua and his colleagues reviewed data from 863 patients on **warfarin** therapy who were seen in their medical center's anticoagulation clinic from March 2013 until April 2014. The patients had a mean age of 71 years, and 46.5% were female. About 60% of the patients were of normal weight (BMI 18.5–24.99; 21% of patients) or overweight (BMI 25–29.99; 38%). The rest were obese class I (BMI 30–34.99; 21%), obese class II (BMI 35–39.99; 9%) or obese class III (BMI \geq 40; 11.3%). The patients were receiving warfarin for a variety of reasons: 18.3% had nonvalvular atrial fibrillation; 11.3% had a mechanical valve; 26.8% had DVT; and 14% had PE.

During the 1-year study, 71 patients (8.2%) had a bleeding event. Of these, 38 patients (4.4%) had major bleeds that required hospitalization: gastrointestinal bleeding from any source with or without a transfusion, and retroperitoneal or intracranial bleeding warranting discontinuation of warfarin treatment. The other 33 patients (3.8%) had a nonmajor bleed: epistaxis, hematuria, or vaginal and skin bleeds. Only the index bleeds were considered.

In univariate analysis, the risk for bleeding increased with increasing obesity categories.

Risk of a Major Bleeding Event, Obese Categories vs. Nonobese*

Obesity Class	BMI	HR (95% CI)	P
I	30–34.99	1.30 (0.75–2.5)	0.39
II	35–39.99	1.85 (0.7–4.6)	0.19
III	≥ 40	1.93 (0.9–4.2)	0.09

Nonobese: BMI<30

After adjustment for multiple confounders—age>65 years, Hispanic ethnicity, sex, smoking, alcohol, congestive heart failure, dual antiplatelet therapy (aspirin and clopidogrel), and serum albumin—obesity (BMI >30) was associated with a significantly increased risk of a major bleed (HR 1.84, 95% CI, 1.33–2.55; **P<0.001**)

So when making a decision to put a patient on anticoagulation, we need to employ clinical decision-making tools to [weigh the risks and benefits] .

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References:

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2. Ogunsua AA, Touray S, Liu JK, et al. Body mass index predicts major bleeding risks in patients on warfarin. Arteriosclerosis, Thrombosis and Vascular Biology/Peripheral Vascular Disease (ATVB/PVD) 2015 Scientific Sessions. May 8, 2015; San Francisco, CA. Abstract 388
3. Major Bleeds on Warfarin More Likely as BMI Rises: Analysis, <http://www.medscape.com/viewarticle/844356>, last accessed 8/5/2015