High Intensity Coumadin Or LMW Heparin?: Management Of Recurrent Thrombosis In Antiphospholipid Syndrome

T Murugan, V Divakaran

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Abstract

Antiphospholipid Syndrome (APS) is a thrombophilic disorder causing recurrent venous and arterial thrombosis requiring long-term anticoagulation. This is a Case Report of a patient on adequate coumadin therapy who developed venous and arterial thrombosis and the subsequent dilemma in clinical management.

INTRODUCTION

Antiphospholipid Syndrome (APS) is a thrombophilic disorder causing recurrent venous and arterial thrombosis requiring long-term anticoagulation. This is a Case Report of a patient on adequate coumadin therapy who developed venous and arterial thrombosis and the subsequent dilemma in clinical management.

CASE PRESENTATION

A 51 year old Jamaican woman with Systemic Lupus Erythematosis (SLE) presented to the Emergency Department complaining of painful swelling and purple discoloration of her left hand for 3 days. She gave no history of trauma or fever. Her SLE was complicated by antiphospholipid syndrome and stage III lupus nephritis. She was on coumadin therapy for a left ventricular thrombus diagnosed 2 years prior to this admission, and had a 10 pack-year smoking history.

On examination, she was afebrile and in moderate distress due to pain. Pulses were felt equally in the brachial, radial and ulnar arteries. Her left hand was swollen, warm, cyanotic and tender. Tactile sensation was reduced in the 3 rd , 4th , and 5th digits. Cardiopulmonary exam revealed a 2/6 systolic murmur and bibasilar rales. Blood tests showed thrombocytopenia. The INR was 2.7. Anticardiolipin antibody and lupus anticoagulant tests were positive. Doppler showed acute non-occlusive left brachial vein thrombosis and the patient was admitted for intravenous heparin administration.

On day 2, she developed acute worsening of the pain and swelling. Arteriogram showed attenuation of the lateral branches of the 3 rd and 5th digital arteries and medial branch of the 4th digital artery. Echocardiogram to rule out an embolic source showed a 1 x 1 cm calcified LV thrombus. The patient was transferred to the ICU for local thrombolysis with t-PA (tissue Plasminogen Activator) via a micro catheter in the left ulnar artery. Intravenous nitroglycerin and procardia were given to increase peripheral vasodilatation.

She was closely monitored for signs of reperfusion injury or compartment syndrome. The pain resolved 24hrs after t-PA infusion, and motor and sensory function improved significantly over the next 2 days. Heparin infusion was replaced with LMW (Low Molecular Weight) Heparin. The patient was educated about the benefits of smoking cessation and a nicotine patch was provided. She was discharged home on LMW Heparin, Aspirin 325 mg daily and Plavix 75mg daily. Outpatient follow-up was arranged for bone densitometry and coumadin therapy with a target INR of 3-4.

DISCUSSION

APS is diagnosed in patients with vascular thrombosis or complicated pregnancy with positive anticardiolipin antibody or lupus anticoagulant or both on two occasions at least 6 weeks apart. APS is prevalent among 1-5% of normal healthy adults and 12-34% of patients with SLE. It clinically manifests as venous or arterial thrombosis, pulmonary embolism, stroke, myocardial infarction, thrombocytopenia, livedo reticularis, or maternal and fetal complications during pregnancy ($_{1}$). Recent prospective studies show the incidence of thrombosis per year in APS patients with no prior history of thrombosis is 1%, and with SLE is 4% ($_{2}$). Patients with a

history of thromboembolic events or high anticardiolipin antibody titers are most aften therapeutically and prophylactically managed with long-term anticoagulation with coumadin, (Target INR 2.0-3.0) which reduces the recurrence rate to 1.5% per year ([3]).

This case illustrates an uncommon case of recurrent venous and arterial thromboses in a coumadin treated APS patient. There is no consensus regarding the management of recurrent thromboses in patients on coumadin therapy ([4]). Debate continues over the benefits and risks of low molecular weight heparin vs. high intensity coumadin therapy. Published data, mostly from small retrospective studies, support one or the other ([5]). Prospective trials are difficult due to the low prevalence of such cases and the need for long-term follow-up. Contrary to previous studies, a recent prospective double-blind trial found that high intensity coumadin was no more effective than moderate intensity coumadin in prevention of recurrent thrombosis in APS patients ([6]). High intensity therapy is arbitrarily used by some rheumatologists in patients at high risk. Clinical studies confirm no increased risk of bleeding complications among patients on high intensity coumadin therapy ([7]).

One small retrospective study showed that four of five patients on heparin developed recurrent thrombosis ([5]). A limited number of pilot studies suggest that treatment with antiplatelet therapy might be an alternative to coumadin ([8]). Intravenous immunoglobulins have been show to be successful in treating pregnancy related complications of APS ([9]). These results cannot be extrapolated to clinical practice.

Management of recurrent thrombosis in APS is challenging and based on few retrospective trials or unsupported expert opinions. Further clinical trials are required to guide clinical practice in the future.

CORRESPONDENCE TO

Dr. Thirumagal A. Murugan, MD. tamuruga@utmb.edu, mtmanandhi@yahoo.com

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Author Information

Thirumagal A. Murugan, M.D.
Resident, Department of Medicine, State University of New York Downstate Medical Center

Vijay G. Divakaran, M.D.
Resident, Department of Medicine, State University of New York Downstate Medical Center