84. Preventive Coumadin® for asymptomatic adolescents

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Q: "One of my sons has protein C deficiency. He is 12. We have decided against the more violent collisions and impact of football, but I have decided to let him wrestle, at least for a few years. For the males in our family, onset of DVT and PE has occurred regularly around age 19, then effectively controlled by coumadin® for life. Therefore, we will take it year by year, but the risk would seem to increase through high school. We have also been advised to consider whether to start anticoagulant therapy before a clot, presumably about the same time we ask him to 'retire' from contact sports. Based on family history, I have very little doubt that he will clot before he is out of college. Lifetime coumadin® without phlebitis seems a lot better than lifetime coumadin with phlebitis. How do you feel about preventive anticoagulant therapy in general? Is it effective? Coumadin® as a prophylaxis? Nattokinase as a compromise?

A: This is a very difficult issue, for the son as well as for his parents. Most people are hesitant to start an individual who has never had a blood clot on coumadin® (warfarin). However, based on the family history presented here it may be the right thing to do in this boy. Without knowing details about this family a solid recommendation is, however, not possible. To better assess the boy's thrombosis risk, one would want to know all the details about the other family members' clots: (a) Where their clots triggered by anything (surgery, trauma, etc.) and thus preventable? (b) Did those individuals have other risk factors (overweight, smoking)? (c) Are there family members who have protein C deficiency but have never had a blood clot? (d) What other thrombophilia labs have been done (do the people who clot may be have protein C deficiency plus a second clotting disorder, such as factor V Leiden)?, (e) What is the D-dimer blood test result of the boy? (f) What are his factor VIII, factor IX, and factor XI level?

The D-dimer blood test (also see Q19) is sometimes used by physicians to assess whether a person may be at higher or lower risk for a clotting event; similarly, elevated factor VIII, IX and XI have been shown to increase the risk for thrombosis. In general, one would expect that preventive coumadin® therapy would be effective in preventing clots. I would not put much stock into thinking that Nattokinase would be a good alternative (see Q70).