

Deep Vein Thrombosis Risk - First External Physical Marker - Multiple Lipomas Associated with Thrombophilia

Ross Rudolph, MD, Taylor Barnett, MD

Disclosure/Financial Support: None

INTRODUCTION: Thrombophilia is the increased tendency to form thrombi, often silent, usually due to genetic mutations. Venous thrombosis has an incidence of 0.1% in the general adult population.^{1,2,3} Deep vein thrombosis (DVT) with pulmonary emboli (PE), collectively called venous thromboembolism (VTE), can be fatal in up to 25% of patients with PE. Case review of two brothers with both familial multiple lipomatosis^{4,5} and personal and family history of multiple DVTs and PEs questioned whether multiple lipomas and venous thrombosis are associated. Thrombophilia is unsuspected unless abnormal clotting occurs. Multiple lipomas, if correlated, would be a first physical finding, other than venous stasis pathology, representing an external marker for VTE risk.

METHODS: For the period of years 1999 to 2014, we retrospectively reviewed one surgeon's consecutive adult patients with removed lipomas. We recorded available chart history of personal and familial lipomas, personal and familial venous thrombotic events, and thrombophilia testing. Screening for personal and/or familial history of thrombophilia, and laboratory testing for thrombophilia abnormalities (Factor V Leiden, Proteins S and C) were begun when multiple lipomas and thrombophilia were first suspected to be correlated.

RESULTS: 183 adults had removed lipomas. 54 had multiple lipomas by history and/or physical examination. Mean age was 55 years, and lipoma numbers ranged from 2 to 21. Of these 54 patients, 11 (20.4%) had had a documented thrombotic event, compared to the rate of VTE in the general population of 0.1% (95% CI 4.5-24.1%, $P < 0.001$). Of 13 patients who also had a familial history of multiple lipomas, 3 (23.1%) had a personal VTE event and 4 (30.8%) had a familial VTE event. Of these 54 multiple lipoma patients, 9 had prior testing for thrombophilia, of which 5 (56%) were positive.

CONCLUSION: We suggest that compared to the incidence of venous thrombosis in the adult population, patients with multiple visible lipomas have a previously unknown significantly higher risk of personal and/or familial venous thrombosis. This study suggests a possible genetic link between inherited conditions of multiple lipomatosis and thrombophilia. To our knowledge, this study is the first to identify multiple lipomas as a previously unsuspected, external marker for silent and potentially deadly thrombophilia and increased DVT/PE risk.

REFERENCES:

1. Cushman, M. Epidemiology and risk factors for venous thrombosis. *Semin Hematol.* 2007; 44:52-69.
2. Most D, Kozlow J, Heller J, Shermak MA. Thromboembolism in plastic surgery. *Plast. Reconstr. Surg.* 2005; 115:20e.
3. Davison SP, Venturi ML, Attinger CE, Baker SB, Spear SL. Prevention of venous thromboembolism in the plastic surgery patient. *Plast. Reconstr. Surg.* 2004; 114:43e.
4. Toy, BR. Familial multiple lipomatosis. *Dermatol Online J.* 2003 9(4).
5. Keskin D, Ezirmik N, Celik H. Familial multiple lipomatosis. *Isr Med Assoc J.* 2002 4(12): 1121-3.