

79. Purple Toe Syndrome

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Q1: “What is the “Purple Toe Syndrome”?”

A1: Warfarin can, in rare instances, cause violaceous painful discoloration of the toes and the sides of the feet, referred to as the “purple toe syndrome” (see photograph). Occasionally, the hands can also be involved and a net-like skin rash (= livedo reticularis) can occur. This typically happens within the first few weeks of starting warfarin.

The problem appears to occur mostly in elderly people and in people with hardening of the arteries (= arteriosclerosis). It is thought that bleeding into cholesterol plaques (=atheromatous plaques) in the blood vessel wall leads to the release of cholesterol clumps that travel in the blood stream to the hands and feet, where they lead to obstruction of small arteries. This process is called “cholesterol embolization”. The problem may also occur on heparin.

The treatment of choice is to stop the blood thinner. This typically leads to complete disappearance of the purple toe syndrome” over the next few weeks. Usually, there is no long-term damage. Symptoms typically do not progress to gangrene (i.e., toes or foot turning black and dying off) or amputation. If the blood thinners can not be stopped, one will have to wait and observe whether the symptoms disappear in spite of continuation of blood thinners.

Case Report: A 63 year old woman presents with purple and painful feet (see photograph). Five weeks earlier she had started warfarin for treatment of a blood clot in her leg veins (=deep vein thrombosis). Within a few days she developed patchy purplish discoloration and pain in her feet, which slowly progressed over the next weeks. She had similar, but less pronounced, non-painful discolorations in her hands. Chest CT and heart echo demonstrate extensive calcification and atherosclerotic plaque of the big artery in the chest (aorta). Purple toe syndrome secondary to warfarin therapy is diagnosed. Warfarin is stopped and low molecular weight heparin started. The symptoms in her feet do not change over the next 4 weeks, but then slowly improve. She dies four weeks later from complications of chronic obstructive lung disease (COPD).

