

Thromboangiitis obliterans (TAO - Buerger's Disease)

Summary of conclusions from a review of 27 published papers

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TAO is a rare form of peripheral vascular disease that occurs virtually exclusively in men and, to all intents and purposes, only in smokers. If smokers continue to smoke, their disease is almost uniformly progressive, resulting frequently in amputations (though it is not life-threatening). If smokers stop smoking permanently, the disease does not progress further, virtually all those presenting with the initial symptoms (intermittent claudication, rest pain, numbness of the extremities) being current smokers. Smokers with TAO are much more often heavy smokers and tend to have started smoking earlier. Unsmoked tobacco is not a risk factor.

TAO forms only a small subset of peripheral vascular disease cases, the main distinguishing feature being the early age of presentation - normally in the thirties and virtually never over fifty - and the absence of classical risk factors related to generalised atherosclerosis (high serum cholesterol, hypertension, evidence of calcification). TAO instead appears to be the result of an inflammatory process.

One study found that almost 30% of cases (as against no controls) reported a history of cold injury, mainly trench foot, and that many more cases than controls reported fungal infection in the toes. It is possible that the disease process will not start without some prior damage occurring.

Because of the rarity of the disease to smokers, and because of the age pattern of onset, the hypothesis that it occurs only in a minority hypersensitive to specific tobacco components is attractive. There is some supporting evidence that TAO patients are hypersensitive but not convincing proof that this is a cause rather than a result of disease.

Further research is needed to clarify this hypersensitivity, if it exists, and to investigate the possibility that it is genetically based, perhaps by a sex-linked gene, to explain the male predominance. Evidence so far on family history is minimal and only slightly supportive of the genetic theory.

Other factors, including race, diet, occupation, alcohol, drugs, geography and climate, have no obvious relationship to TAO.

The major findings have been known for many years, a particularly important paper being that in 1945 by Silbert. Any patient presenting with symptoms of TAO should have been advised in the strongest terms to give up smoking. Continuing smokers not only show progression of the disease, but also dramatically worsen their chances of having successful vascular reconstruction surgery.