endothelioid, or of immature fibrous tissue, or else of adult fibrous tissue with fewer cells, these being mainly adult connective tissue cells. He believed the cellular areas in the stroma were the result of a reaction against the concentrated toxins locally of the worms and embryos. He points out that this cellular tissue later becomes fibrocellular and ultimately adult fibrous tissue.

There seems to be no doubt but that the parasite is the inciting factor in the formation of the neoplasms. However, as is usually the case with other parasites, in not all of the individuals infected with Onchocerca volvulus are tumors present. Blacklock found, for example, that in sixty-eight individuals who had Onchocerca volvulus larvae in the skin, only 40% had visible subcutaneous nodules.

Sharp believes that the first stage of the disease is not a subcutaneous tumor but the existence of active embryos in and around the corium, and he thinks that the tumors are only late manifestations of the infection. In Nigeria he found skin infection in 55 per cent, but tumors only in 30 per cent. The African onchocercal tumors usually cause little inconvenience to the individual and ocular disturbances have not been observed.

While the nodular tumors of Onchocerca volvulus in Africa are situated almost invariably upon the trunk or extremities, in Guatemala those produced by Onchocerca caecutiens occur, with few exceptions, upon especially in the scalp, usually in the region of the scalp. The tumors in Guatemala are as a rule somewhat smaller than those we observed in Africa, many