Abstract

Opisthorchis viverrini, *Clonorchis sinensis,* and *Schistosoma haematobium* have been classified as the group 1 of carcinogens by the International Agency for Research on Cancer. Infections with opisthorchid flukes may lead to the development of cholangiocarcinoma of the liver, and those with schistosomes to the squamous carcinoma of the bladder. The link between helminth infections and carcinomas has been confirmed, and the exact mechanisms of carcinoma induction are at present intensively studied. There are some other representatives of helminths that are probably associated with cancers, but their direct effect on the process of carcinogenesis has not been confirmed yet. The formation of tumors can also occur via malignant transformation of totipotent parasite cells that become invasive and metastasize to different parts of the host body. However, some types of helminths may exhibit an opposite effect and show an anti-tumor activity. This review primarily focuses on the helminths associated with the development of cancer and the currently described mechanisms of carcinogenesis caused by such infections.