

ABSTRACT

Humoral antibody production against HGG (Human Gamma Globulin), proliferation and histological changes by it and localization of HGG in liver, spleen and kidney of fish *Cirrhinus mrigala* was studied. Antigen was administered by intraperitoneal route. Two types of immunization regimens were followed i.e., primary and secondary immunization. There was little or no humoral antibody production against HGG in primary immunization regimen while some titers were produced during secondary immunization. A significant increase was seen after 21 days. Remarkable proliferative response was present in kidney and spleen throughout the experiment after primary and secondary immunization. While liver showed slight proliferation. In histological changes pyknosis, cirrhosis, Tissue degeneration, and vacuolization in liver, shedding of tubular epithelium, constriction and dilation of tubules, and tissue degeneration in kidney, tissue degeneration and pyknosis in spleen was also present. In localization studies, HGG first came into the ellipsoids of spleen, haematopoietic tissue of liver and glomerulus of kidney after 7 days in both types of immunization then into the pulp area or haematopoietic tissue and melanomacrophage centers in liver, spleen and kidney after 14 days. And after 21 days liver and spleen showed no immunofluorescence while in kidney bright fluorescence was present in melano-macrophage centers after both primary and secondary immunization.