DERMAL FIBROMA IN A GOLDFISH : IMMUNOHISTOCHEMISTRY AND POLIMERASE CHAIN REACTION

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Introduction

Tumors of fibrous connective tissue (fibroblasts) are the most common of the mesenchymal tumors. And fibromas are relatively common tumors affecting a wide variety of different species, and also found in goldfish (Constantino *et al.* 1999) Fibromas may be loosely attached by tags of fibrous tissue or firm anchored to the tissue of origin. The cells of the typical fibroma are long, spindle-shaped and very densely staining with minimal cytoplasm (Goldschmidt and Hendrick. 2002).

Previous studies reported that environmental and infectious agents are suggested as the causative agents of fibromas, which can often occur at high levels in farmed and wild fishes, but little is known of the precise factors operating in such cases. Predisposing factors such as carcinogenic compounds, viruses, irritans, oncogenes and parasites have all been reported in teleost and should be considered potential sources for tumor induction in tropical fish (Stoskopf, 1993). This study was performed to observe the histopathology, immunohistochemistry and using single polymerase chain reaction (PCR) to clarify relationship between tumor and walleye retrovirus (WRV) infection and presence of Carp β-actin.

Materials and Methods

Eight-goldfishes had been held together in the freshwater for approximately 15 months when a small mass (approximately 0.6 cm in diameter) firstly noted on the right side of the body of a goldfish. The mass on the goldfish was surgically removed by the veterinarian and then was returned to the display tank Twelve-months later the mass reappeared at the same location, close to the dorsal fin (Fig 1) and the mass became bigger and multinodules (approximately 1 cm in diameter). The fish was removed from display tank and submitted to Laboratory of Veterinary Pathology, Bogor Agriculture University Euthanasia was performed at the owner's request.

Representative tissues were fixed in 10% buffered neutral formalin and routinely embedded in paraffin. For tight microscopic evaluation, the sections were stained with hematoxylin and eosin (HE). And serial sections were stained with Masson trichrome, Silver impregnation (Watanabe). Bodian's and Alcian Blue-Periodic Acid Schiff (AB-PAS). Additional formalin-fixed, paraffin-embedded sections were stained by the streptavidin-biotin complex (SAB) immunoperoxidase method. The primary antibodies employed were the following: mouse anti-vimentin (1:200, DAKO M7020) and rabbit anti- S100 antibody (1:2000, DAKO Z0311).

Frozen tumor was processed by using Polymerase Chain Reaction (PCR) for detection of Carp β-actin and walleye retrovirus pol gene (WRV pol). The PCR was performed by using TAKARA Ex Taq HS.