

Orocutaneous squamous cell carcinoma in a black ghost (*Apteronotus albifrons* Linnaeus, 1766)

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Abstract

Squamous cell carcinoma in a black ghost (*Apteronotus albifrons*) is described. The fish had an irregular multilobular cauliflower-like mass protruding on the orocutaneous surface of the lower mandible. Histopathologically, the mass was composed of neoplastic epithelial cells. Massive proliferation of neoplastic squamous cells exhibited extensive central necrosis with necrotic eosinophilic debris and some cavitated spaces. The tumour cells were also arranged in cell-nests of squamous epithelium, with central keratin pearl structures. Tumour had an infiltrating growth pattern and invasion of the dermis was seen. Neoplastic cells were also invaded, disrupted, and replaced adjacent skeletal muscle. Immunohistochemistry showed diffuse positive cytoplasmic staining of the neoplastic cells with an anti-human pancytokeratin antibody. On the basis of the histopathological findings, the mass was diagnosed as squamous cell carcinoma (SCC). This is the first report of orocutaneous squamous cell carcinoma in black ghost.

Introduction

Squamous cell carcinoma (SCC) is a malignant neoplasm of squamous epithelial cells (Poochirian et al., 2011). This neoplasm has been reported in gudgeon (*Gobio gobio*) (Mawdesley-Thomas and Bucke, 1967), Atlantic salmon (*Salmo salar*) (Roberts, 1972), brown bullhead (*Ameiurus nebulosus*) (Baumann et al., 1987), gulf menhaden (*Brevoortia patronus*) (Fournie et al., 1987), rainbow smelt (*Osmerus mordax*) (Herman, 1988; Morrison and MacDonald, 1995), rudd (*Scardinius erythrophthalmus*) (Hanjavanit et al., 1990; Hanjavanit and Malcahy, 2004; Hanjavanit et al., 2008), hybrid sunfish

(Fitzgerald et al., 1991), koi carp (*Cyprinus carpio*) (Wildgoose, 1992), mirror carp (*Cyprinus carpio*) (Manera and Biavati, 1994), Oscar (*Astronotus ocellatus*) (Rahmati-Holasoo et al., 2010), grey mullet (*Mugil cephalus*) (Poochirian et al., 2011), white sucker (*Catostomus commersonii*) (Blazer et al., 2016), wild European bullhead (*Cottus gobio*) (Quaglio et al., 2016) and whitespotted bamboo shark (*Chiloscyllium plagiosum*) (Culp et al., 2017).

Tumours of the mouth (Honma et al., 2003; Vijayakumar et al., 2014) and pharynx (Manera

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