PROLIFERATIVE EPITHELIOCYSTIS ASSOCIATED WITH MONOGENEAN INFECTION IN JUVENILE SEABREAM SPARUS AURATA IN THE NORTH EAST OF SPAIN

BY F. PADRÓS AND S. CRESPO

Introduction

Epitheliocystis was first described in the seabream Sparus aurata by Paperna (1977), the proliferative form of the disease being associated with mass mortalities in the eastern Mediterranean. Epitheliocystis is widely distributed (Turnbull, 1993) and can exist as a chronic non-pathogenic infection in different fish species such as seabream, S. aurata, seabass Dicentrarchus labrax and mullet Mugil cephalus. Monogenean infections associated with fish mortalities have recently been described in seabream in the Mediterranean (Faisal and Imam, 1990; Sanz, 1992). The present communication is the first report of a mixed infection involving proliferative epitheliocystis and monogenean parasites affecting juvenile cultured seabream in the North East of Spain.

Materials and methods

Continuous although low mortalities occurred in O' seabream juveniles reared in floating cages during the winter months 1993-1994. Moribund fish were examined and showed signs of respiratory impairment.

Fig. 1- Proliferative epithelial reaction around epitheliocystis-affected cells. Bars=50μm.
Fig. 2- Cyst containing elongated and small cells. Bars= 1 mm.
Fig. 3- Cysts containing round cells. Bars=1μm.

Freshly killed fish were examined for a parasitological investigation and samples of different organs and tissues were processed for histopathological and electron microscope studies.

Results and discussion

Histopathological observations revealed the presence of basophilic cysts in most of the gill filaments of diseased fish. Cysts triggered an intense proliferative response around them and led to lamellar fusion (Fig. 1). Electron microscope studies showed the presence of Chlamydia-like prokaryotic organisms exhibiting different morphologies (Figs. 2 and 3) similar to those previously described by Paperna et al., (1981). Non-proliferative hyperinfection and benign forms in seabream have been noticed as well in the eastern Mediterranean (Paperna et al., 1981) as in the Spanish area (Crespo, unpublished results). Yet, the proliferative form of the disease has only been described so far, in Spanish mariculture facilities, in the amberjack Seriola dumerili (Crespo et al. 1990). In the present case, epitheliocystis infection was not, however, the unique cause of the fish kills since all seabream examined were also affected by mild to severe infections of monogenean parasites Myxocystis sp. (Fig. 4) and Lomellodiscus sp. (Fig. 5). Although main lesions observed in the gills of affected fish were due to epitheliocystic infection, the role of monogenean parasites in the pathology of the process must not be undervalued.
Abstract
Continuous although low mortalities occurred in O' seabream reared in floating cages in the NE of Spain. Mixed proliferative epitheliocystis and monogenean (Hennecyclospora sp. and Lernaeocercidae sp.) infection seemed to be responsible for the fish kills.

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References

EAFP 6th INTERNATIONAL CONFERENCE
HISTOLOGY WORKSHOP

Trygve Poppe and David Bucke are organising an Histology Workshop at the above Conference. The subject will be “Pathological changes in gills and eyes”.

To make this workshop successful the organisers are requesting histopathologists for samples of either fixed or paraffin embedded specimens of diseased or interesting eyes and gills. Could specimens be sent to David Bucke, DB Aquatic Pathology Services, Chasers Folly, 3b Roundhayes Close, Weymouth, Dorset, DT4 0RN, U.K.

David Bucke will arrange for H&E stained slides to be made from the specimens. Details of the Workshop and a registration form will appear in the next issue of the Bulletin. Numbers attending will have to be limited as at previous conference workshops, but contributors of specimens will receive priority.