

(T-29) 17 α -ethynylestradiol alters the humoral immune response of gilthead seabream males depending on their reproductive stage.

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Abstracts:

17 α -ethynylestradiol (EE₂), a drug used in oral contraceptives and hormone replacement therapy, has a widespread presence in the aquatic environment. Recently, it has been demonstrated that EE₂ inhibits the reactive oxygen intermediate production and the phagocytosis of fish head-kidney leukocytes *in vitro* and decreased the pro-inflammatory and increased the anti-inflammatory and tissue repair gene expression of fish head-kidney leukocytes upon *in vitro* and *in vivo* exposure in antigenic challenge but not in naïve fish. Interestingly, the effect of EE₂ on the gonadal immune responses was related with the developmental stage of the specimens, reflecting a developmental adjustment of the sensitivity to EE₂. Taking all this into account, we have now explored the effect of dietary intake of EE₂ (5 or 50 μ g/g food) for 28 days on the humoral innate immune response in two developmental stages (pre-spermatogenesis, pSG, and spermatogenesis, SG) of gilthead seabream, a marine hermaphrodite fish. Our data showed that all immune activities analyzed (protease, anti-protease, peroxidase, bactericidal and haemolytic) were differently altered by EE₂ according with the developmental stage (pSG and SG) of the specimens. The main exception was the protease activity that similarly decreased in pSG and SG specimens exposed to 50 μ g EE₂/g food for 7 days.