

No great concern arise from trace metals content in all the samples, both for the average daily intake. The occasional detection of BaP concentrations above the law limit is not to be underestimated, since the compound is highly genotoxic and carcinogenic, and till date risk assessment evaluation are still poorly characterized to assess maximum tolerable oral exposure dose. Currently we have implemented the coastal monitoring with the aim of strengthen public health surveillance system, well defining risk derived from oral exposure.

Key messages

- First data on metals detected in edible tissue of *Haliotis* spp and estimated daily intake are not of concern for public and environmental health
- Sporadically high values of BaP require a more intensive monitoring due to the genotoxic and carcinogenic compound potential

Bioaccumulation of metals and benzo(a)pyrene in *Haliotis* spp and oral risk assessment

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The bioaccumulation of contaminants in sedentary organisms, also consumed by humans, allows to assess coastal pollution and the health risk from oral exposure dose. In this study we have evaluated cadmium (Cd), lead (Pb), mercury (Hg) and benzo(a)pyrene (BaP) concentrations in *Haliotis* spp, a mollusk sampled along the Ionian coast of Sicily and Calabria. This species is highly consumed by the local population, thus the oral exposure risk related to the chosen pollutants was evaluated.

For metal determination samples will be mineralised with acid digestion and detected with ICP-MS. BaP was detected with HPLC after sample homogenization, sonication with a solution of dichloromethane:acetone 1:1 (v:v) and concentration in nitrogen flow.

The average values (av) of Pb, Cd, Hg and BaP were lower than the maximum tolerable limits set by Regulation (CE) no. 1881/2006 for mollusks (1.5, 1.0, 0.5 mg/kg and 10 µg/kg respectively). In the samples from Sicily the av were 0.083, 0.195, 0.009 mg/kg and 3.45 µg/kg and in those from Calabria the av were 0.250, 0.106 e 0.011 mg/Kg and 7.70 µg/kg respectively. BaP values were sporadically higher than the permitted limits in both sites. According to Food and Agricultural Organization (FAO) in Italy there is an ingestion rate of 9 g/capita/day of mollusks and the Daily Intake (DI) of an adult of 70 Kg body weight resulted lower of the Provisional Tolerable DI suggested by the WHO and FAO for all metals.