

食用方式对近江牡蛎和波纹巴非蛤中铁、铜生物可接受性的影响

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Effect of edible way on bioaccessibility of Fe, Cu in *Crassostrea rivulari* and *Paphia undulate*

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摘要

应用全仿生消化模型评价了近江牡蛎 (*Crassostrea rivulari*) 和波纹巴非蛤 (*Paphia undulate*) 的铁 (Fe)、铜 (Cu) 在仿生胃肠提取液中的变化与生物可接受性。结果表明: 1) 煮熟后的2种贝类中的Fe和Cu在胃消化阶段的提取量有所增加, 但在肠消化阶段近江牡蛎中Cu和波纹巴非蛤中Fe、Cu提取量均有所降低; 2) 熟近江牡蛎中的Fe生物可接受性比生的提高了7.3%, Cu生物可接受性提高了4.6%; 熟波纹巴非蛤中Fe生物可接受性比生的提高了11.5%, 而Cu则降低了11.5%; 3) 食用近江牡蛎最高可为沿海居民提供人体每日所需15.5%的Fe和25.9%的Cu, 而食用波纹巴非蛤对沿海居民每日Fe、Cu摄入量的贡献分别大于6.4%和3.1%。日常食用熟的近江牡蛎比波纹巴非蛤能提供更多Fe摄入量。总体而言, 熟食比生食能摄入更多的Fe。

关键词 : 近江牡蛎, 波纹巴非蛤, 铁, 铜, 生物可接受性

Abstract :

We evaluated the solubility and bioaccessibility of Fe and Cu in *Crassostrea rivulari* and *Paphia undulate* by *in vitro* whole-bionic digestion model. The results show that: 1) At the stomach digestive stage, the solubilities of Fe and Cu in cooked *C.rivulari* and *P.undulate* were higher than those in raw ones, which was contrary to the case at intestinal digestion stage; 2) The bioaccessibility of Fe and Cu in cooked *C.rivulari* increased by 7.3% and 4.6%, respectively, and the bioaccessibility of Fe in cooked *P.undulate* increased by 11.5% while that of Cu decreased by 11.5%; 3) Eating *C.rivulari* could provide coastal residents at most with 15.5% and 25.9% of the daily intake of Fe and Cu, respectively, while eating *P.undulate* could provide with over 6.4% and 3.1% of Fe and Cu, respectively. In general, eating *C.rivulari* provides human body with more daily intake of Fe than eating *P.undulate*, and even more when they are cooked.

Key words : *Crassostrea rivulari* *Paphia undulate* Fe Cu bioaccessibility

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