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Asymetrical symptomatic tonsils- Relationship with malignancy and the clinical accuracy of estimating size

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Asymmetrical tonsils raise the concern for possible malignancy although the relationship between the two is unclear. Despite this, current practice for patients with asymptomatic asymmetrical tonsils is tonsillectomy. This retrospective study aims to investigate: 1) The rate of malignancy in patients with asymptomatic asymmetrical tonsils, 2) The clinical accuracy of tonsil size assessment and the potential use of imaging to improve this. We reviewed 50 post-tonsillectomy patients histology ranging from Nov 2015 to Aug 2015 investigating patient demographics, clinical assessment of tonsil asymmetry, histological assessed size and volume of the tonsils and the final diagnosis. Any patients with symptomatic tonsils (such as ulceration) were excluded from the study leaving us with a sample size of 47. The results demonstrated no cases of malignancy, with all post-tonsillectomy patients having benign reactive hyperplasia on histology. Of the tonsils deemed clinically asymmetrical, only 59% were correct histologically. These findings question the current indications for tonsillectomy in asymptomatic asymmetrical patients. Additionally, they demonstrate that clinical examination alone has poor sensitivity for determining tonsil asymmetry. We believe that pre-operative MRI or USS could be beneficial in more accurately assessing tonsil asymmetry.

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Arsenic toxicological and carcinogenic effects assessed by metabolomic profiling in clam *Scrobicularia plana* exposed to arsenate

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Arsenic is one of the most studied elements in relation to mammal toxicity. This element is a widespread pollutant in the environment found in water, soil, and air from natural and anthropogenic sources, occurring in both inorganic and organic chemical forms, which strongly differ in terms of toxicity, accumulation, and involvement of arsenic respect to metabolism of living organisms. However, the mechanism of arsenic toxicity still remains unclear, although enzymatic inhibition, impaired antioxidants metabolism and oxidative stress may play a role. Some marine organism, as bivalves, can accumulate high amounts of metals and thus easily reach concentrations that are toxic not only to themselves but also to organisms who ingest them. In the present study, the marine bivalve, *Scrobicularia plana*, was used as a model organism. Clams were exposed to AsV (10 and 100 µg•L-1) during 14 days to check the toxicological effect related to AsV exposure. For this propuse, a metabolomic analysis was carried out by direct infusion mass spectrometry to polar and lipophilic extracts in digestive glands of S. plana in positive and negative acquisition modes (ESI-/ESI+). The results show significant changes in the metabolomic profiles of S. plana by the exposure to As. In addition, analysis of polar and lipophilic extracts using positive and negative mode allows the study and characterization of a great number of possible toxicological biomarkers.

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