CARBONIC ANHYDRASE IX ASSAY: A PARADIGM SHIFT IN DIAGNOSIS OF MALIGNANT CYSTIC RENAL LESIONS.

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ABSTRACT

Carbonic anhydrase IX (CAIX) is a paradigm shift in diagnosis of malignant cystic renal lesions. CAIX and its isoform known as MultiCystic Clear Cell Renal cell Carcinoma (MCaCC) are new variants of RCC, which specificity and sensitivity may be useful for differentiating benign versus malignant renal cystic lesions. This paradigm change in diagnosis was ascertained from the usefulness of CAIX in these cystic lesions and to have a new tool for definitive diagnosis in cases without corresponding malignant surgery.

METHODS

The aim of this study was to evaluate the expression of CAIX in renal cystic lesions. Twelve patients diagnosed with Cystic renal tumors (BSorex type IV, V) at the Amrita Nephrology Centre, Kochi, India, were included. Renal cyst fluid, by aspiration from cystic lesions and their aspirates were collected from patients with cystic lesions and they were subjected to western blot analysis. In general, aspirates were collected from 12 patients with simple renal cysts undergoing surgery for other reasons and their aspirates were also subjected to western blotting to act as a control. Immunohistochemical examination (IHC) of formalin-fixed cases was done. Immunohistochemical (IHC) staining and scoring for both intensity and extent of positivity was done on the H&E slides. Staining was done using a monoclonal anti-CAIX antibody. Immunohistochemical examination of formalin-fixed cases was done. Immunohistochemical (IHC) staining and scoring for both intensity and extent of positivity was done on the H&E slides.

RESULTS

The results showed that CAIX was expressed in all the 12 cases, with positivity ranging from 0% to 100%. A total of 10 cases showed complete staining of tumors with CAIX and 2 cases showed partial staining. The staining was done using a monoclonal antibody (CAIX) and the staining varied from 0% to 100%. The staining was done using a monoclonal antibody (CAIX) and the staining varied from 0% to 100%.

Discussion

This study is based on the analysis of pathologic changes in cystic renal lesions and the expression of CAIX in these lesions which we believe has an important role in the pathogenesis of malignant renal lesions. This study also showed that CAIX is more sensitive and specific for detection of malignant renal lesions.

References