

*Original article*

## Efficiency of Fetuin-A and Procalcitonin in the Diagnosis of Infection in Patients with Febrile Seizure

Hussein Kadhem Al-Hakeim<sup>1</sup>, Azhar Mohammed Al-Ankoshy<sup>2</sup>, Mohammed-R.Alsharifi<sup>2</sup>

<sup>1</sup>*Department of Chemistry, Faculty of Science, Kufa University, Iraq*

<sup>2</sup>*The Humanities and Science University, Department of Pathological Analysis Techniques, Najaf City, Iraq*

### SUMMARY

Fetuin-A is a negative acute phase reactant, while procalcitonin is an indicator of severe bacterial infection. Diagnosis of bacterial infection in febrile seizure (FS) is important for choosing the most suitable treatment. In this study, serum fetuin-A was estimated, for the first time, in the in-patients with FS and compared with procalcitonin and blood culture tests.

A total of 60 children (28 male and 32 female) with FS in addition to 30 sex- and age-matched children participated in the study. Patients were classified according to sex, age, PCT level (high PCT>0.5ng/mL), C-reactive protein (CRP, positive >6mg/L), and according to the results of the blood culture.

Fetuin-A level decreased and PCT level increased in FS patients in comparison to those in the control group. These changes are significantly increased ( $p<0.05$ ) in the positive CRP group compared with that of the negative CRP group. Kernel density estimation showed that procalcitonin is a better indicator of the infection in FS children than fetuin-A. Procalcitonin is more sensitive and specific than fetuin-A and when used together they produce 100% sensitivity and specificity for the diagnosis of bacterial infection in FS patients.

Fetuin-A is low in FS patients and can be used with procalcitonin in the diagnosis of bacterial infection in FS.

*Key words: fetuin-A, procalcitonin, infection, febrile seizure*

Corresponding author:

Hussein Kadhem Al-Hakeim

e-mail: headm2010@yahoo.com