



POSTER PRESENTATION

Open Access

A decision tree based on procalcitonin and C-reactive protein levels as a potential diagnostic tool to distinguish PFAPA flares from acute bacterial and viral infections

B Kraszewska-Glomba*, Z Szymanska-Toczek, L Szenborn

From 8th International Congress of Familial Mediterranean Fever and Systemic Autoinflammatory Diseases
Dresden, Germany. 30 September - 3 October 2015

Introduction

Periodic fever, aphthous stomatitis, pharyngitis and cervical adenitis (PFAPA) is a disease of unknown etiology and unclear pathophysiology. Considering the inexistence of specific laboratory test for PFAPA, it remains a diagnosis of exclusion.

Objective

We searched for practical use of procalcitonin (PCT) and C-reactive protein (CRP) in differentiating PFAPA attacks from acute bacterial and viral infections.

Methods

Levels of PCT and CRP were measured in 35 PFAPA patients during 67 PFAPA febrile episodes and in 86 children diagnosed with acute bacterial (n=47) or viral (n=39) infection. We used the C4.5 algorithm (statistical classifier) to construct a decision tree.

Results

Statistical analysis with the use of C4.5 algorithm resulted in the following decision tree: viral infection if $CRP \leq 19.1$ mg/L; otherwise for cases with $CRP > 19.1$ mg/L: PFAPA if $PCT \leq 0.65$ ng/mL, bacterial infection if $PCT > 0.65$ ng/mL. The rule was effective in 83.7% of the cases. Febrile episodes during PFAPA flares, bacterial and viral infections were classified with the sensitivity of 76.1%, 93.6% and 84.6% and specificity of 89.5%, 88.7% and 96.5% respectively.

Conclusion

Differences in PCT and CRP levels during PFAPA attacks, bacterial and viral diseases may be used to build a simple decision tree. When interpreted cautiously and with reference to the clinical context, it might present a potential diagnostic tool for distinguishing PFAPA flares from acute infections.

Published: 28 September 2015

doi:10.1186/1546-0096-13-S1-P167

Cite this article as: Kraszewska-Glomba et al.: A decision tree based on procalcitonin and C-reactive protein levels as a potential diagnostic tool to distinguish PFAPA flares from acute bacterial and viral infections. *Pediatric Rheumatology* 2015 **13**(Suppl 1):P167.

**Submit your next manuscript to BioMed Central
and take full advantage of:**

- Convenient online submission
- Thorough peer review
- No space constraints or color figure charges
- Immediate publication on acceptance
- Inclusion in PubMed, CAS, Scopus and Google Scholar
- Research which is freely available for redistribution

Submit your manuscript at
www.biomedcentral.com/submit



Wroclaw Medical University, Department and Clinic of Pediatric and Infectious Diseases, Wroclaw, Poland