

# # 1073. Selective IgE mediated reactions in a patient to Calvulanic acid demostrated by histamine release test

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## Introduction

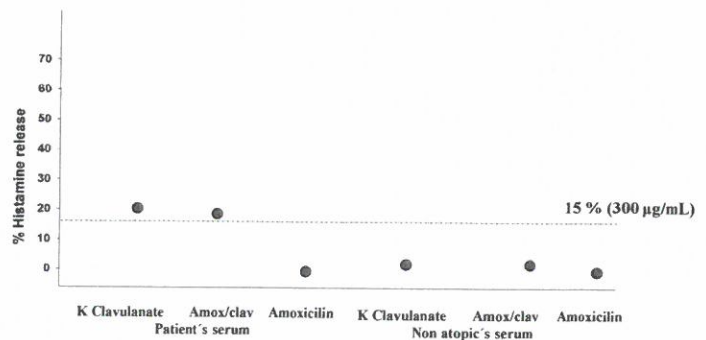
A precise diagnosis in betalactamic allergy is very important in order to prevent unnecessary treatment limitations. We present a case of 28 years old woman who, 30 minutes after oral administration of amoxicillin/clavulanic acid, presented a generalized urticaria. She was treated with corticosteroids and antihistamines with complete resolution. She had positive skin tests only to amoxicillin/clavulanic and clavulanic acid with negative test to PPL, MDM, Penicillin G, ampicillin and amoxicillin. The oral challenge test with amoxicillin was negative

## Methods

Histamine release from patient's basophils was tested by incubating blood with clavulanic acid using the HR-test kit. Further, histamine release after passive sensitization with serum from the patient on stripped donor basophils was performed with the following drugs/compounds: Clavulanic acid (Diater Laboratories), Benzyl penicillin & Amoxicillin. All compounds were tested in 6 concentrations in duplicate from 1000 to 1.9 µg/mL, dilution factor 3.5. Histamine release was detected by HR-Test from Reflab. Control experiments included basophils with non-allergic serum and pre-incubation of sera with Omalizumab 1:1000

## Results

Histamine release from patients basophils was positive to clavulanic acid with a maximal release of 98 ng histamine/mL but no release to amoxicillin. When donor basophils were sensitized to the patient serum Potassium clavulanate and amoxicillin/clavulanic induced histamine release of 15% at a concentration of 300 µg/mL. No histamine release was observed when basophils were sensitized to non-allergic serum or when basophils were sensitized to patient serum pre-incubated with Omalizumab. No histamine release was observed when sensitized basophils were challenged with sodium amoxicillin, Benzyl penicillin & Amoxicillin



## Conclusions

The patient's suspected allergic reactions to Clavulanic acid was confirmed in vitro by histamine release from patient's basophils. The reactions are most likely IgE mediated since passive sensitization with patient sera and subsequent challenge with clavulanate and amoxicillin/clavulanic induced histamine release whereas no release was observed to amoxicillin alone and the histamine release was completely abolished when sera were pre-incubated with Omalizumab which prevents bindings of IgE to the high affinity FcεR1α receptor