

Letters to the Editor

Antibodies contained in “M” component of some patients with multiple myeloma are directed to food antigens?**Abstract**

Multiple myeloma is malignant disease that is characterized in most patients, by the presence in the serum of monoclonal gamma globulins, which in agarose gel after electrophoresis appear as protein band of restricted mobility, “M” component.

The aim of this study was to determine are the antibodies contained in M-component directed to some antigen chronically present in the organism, to some of food antigens.

Seventeen patients with secretory plasmacytoma were included in the study: eight of them had IgG(kappa), three had IgG(lambda), and one had bclonal IgG(kappa) and IgA(kappa), while two had IgA(kappa), the other two IgA(lambda) and one IgM(lambda) as paraproteins. M-proteins were detected analyzing patients’ sera by agarose gel electrophoresis in 0.09 M barbital buffer. The each M-protein was confirmed by immunotyping (immunofixation) with corresponding antihuman antibodies directed to heavy or light chains of immunoglobulins. After the patients serum separation on agarose gel by electrophoresis, fresh 0.4% solution of crude gliadin (Sigma) in 1% SDS was put over the slides for immunoprecipitation.

Preliminary results showed the interaction of gliadin with patient’s serum proteins present in the protein fraction of the same mobility as it was the mobility of the M-component, in 6 from 17 investigated sera.

These results are the first reporting that in sera of some patients with multiple myeloma antibodies from M-component could be directed to some of gliadin antigens.

As the serum anti gliadin immunoreactivity is present in patients with gluten intolerance, celiac disease, it could be of importance to elucidate is the multiple myeloma more severe form of gluten intolerance than celiac disease.

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Multiple myeloma (MM) is the one of the common haematopoietic disease in which the initial finding is (often) a monoclonal gammopathy and elevated levels of IL-6 [1,2]. Monoclonal gammopathies involve greatly increased concentrations of one or a few immunoglobulins, which are referred to as M-components. Serum electrophoresis is the best screening test for diseases of immunoglobulin-producing cells, where M-components appear on zone electrophoresis (agarose) as narrow bands of restricted mobility. It was reported that the antigens to which antibodies contained in M-component are specific are: actin, von Willebrand’s factor, thyroglobulin, insulin, riboflavin, dextran, anti-streptolysin O, double-stranded DNA, apolipoprotein, thyroxin, cephalin, lactate dehydrogenase, and several antibiotics [3].

From the other side, it is well known that in sera of some patients with intolerance to gluten, with celiac disease, the

IgA or IgG immunoreactivity to gliadin, and elevated levels of IL-6, could be present too [4,5].

The aim of this study was to determine are the antibodies contained in M-component directed to some antigen chronically present in the organism, to some of food antigens, to gliadin.

Seventeen patients with secretory plasmacytoma were included in the study: eight of them had IgG(kappa), three had IgG (lambda), and one had bclonal IgG(kappa) and IgA(kappa), while two had IgA(kappa), the other two IgA(lambda) and one IgM(lambda) as secretory components. M-proteins were detected by agarose gel electrophoresis in 0.09 M barbital buffer. The each M-protein was confirmed by immunotyping (immunofixation) with corresponding antihuman antibodies (The Binding Site) directed to heavy or light chains of immunoglobulins.

After the patient's serum separation on agarose gel by electrophoresis, fresh 0.4% solution of crude gliadin (Sigma) in 1% SDS was put over the slides for immunoprecipitation. After immunofixation and washings, gels were stained with Amidoblack, or Comassie brilliant blue.

Preliminary results showed the interaction of gliadin with some of patient's serum antibodies present in the protein fraction of the same mobility as it was the mobility of the M-component. This matched place of the M-component and the antigliadin immunoreactivity was found in 6 from 17 investigated sera: in four with IgG(kappa), in one with biconal IgG(kappa) and IgA(kappa) and in one with IgG(lambda) paraproteins. These results are the first reporting that antibodies from some M-component could be directed to gliadin antigens. The possibility of the non-specificity of this reaction could be of the utmost importance for clinical manifestation of MM because it was published that some antigliadin antibodies isolated from patients with celiac disease cross-react with human (multifunctional protein!) calreticulin [6–8]. The reason for this was in the sequence similarities of gliadin antigenic epitopes and short stretches on calreticulin, localized to the calcium binding, proline rich, P-domain of human calreticulin.

Further elucidation of the clinical significance of mentioned antigliadin immunoreactivity for patients with MM, particularly concerning the character and the treatment of celiac disease needs to be done.

As the serum antigliadin immunoreactivity is present in patients with gluten intolerance, celiac disease, it could be of importance to elucidate is the multiple myeloma more severe form of gluten intolerance than celiac disease, not originating only from patient's malnutrition, but supported by chronically provoked immunostimulation by some of food antigens. As IgA or IgG antigliadin immunoreactivity found in sera of patients with celiac disease is diminished in patients on gluten-free diet (GFD) and by some antibiotics [9], it could be of importance to consider whether the same approach in patients with MM (and with antigliadin immunoreactivity), applied at the end of conventional therapy would stop myeloma progression. In addition, would the screening of adolescent population for the antigliadin immunoreactivity help in identifying the persons who are prone for gluten intolerance and need to be followed up, for prevention of myeloma?

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