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Letter to the Editor

The yeast behind the sprue: is it true?

Dear Editor,

We read with great attention the article by Theodoropoulos et al[1] about celiac disease and associated chronic vulvo-vaginitis. This association deserves a sharp review, highlighting the evolving role of the mucosal immunity in the link between celiac disease and *Candida* infection.

Several papers revealed the intimate relationship between *Candida albicans (C. albicans)* and celiac disease (CD), and molecular mimicry seems at the cornerstone of this odd link of autoimmunity with fungi.

In fact, molecular mimicry is one of the leading mechanisms by which infectious or chemical agents may induce autoimmunity, and occurs when similarities between foreign and self-peptides favor an activation of autoreactive T or B cells by a foreign-derived antigen in a susceptible individual[2].

During the initial adherence of *C. albicans* to human epithelial surfaces, a great number of specialized adhesins are needed to build the attachment to the host, such as the peculiar "hyphal wall protein" (Hwp1): a key hypha-associated adhesin that facilitates epithelial cell attachment[3,4].

Thus, a potential role for *C. albicans* in CD development has been hypothesized based on sequence similarities between this Hwp1 and several T-cell gliadin epitopes[5].

As the Hwp1 is used by *C. albicans* to adhere to the intestinal epithelium, it is thought that tissue transglutaminase (tTg) and endomysium link to the yeast and act as an adjuvant that activates the immune system to fight both: the HWP1 and gluten; thereby forming autoimmune antibodies against tTg and endomysium, resulting in the characteristic villous atrophy of CD[6].

Precisely, tTg was suggested as a common denominator in the humoral cross-reactivity between HWP1 and gliadin during CD and *Candida* infection[7], and *Candida* would even trigger CD in genetically predisposed population[6].

Of note, recent findings confirm the intimate relationship between *Candida* infection (yeasts) and celiac disease, correlated with digestive symptoms: statistically significant differences are reported between the prevalence of fecal *Candida* counts in CD patients with persistent digestive symptoms compared to non-celiac patients[8].

The link between the two conditions has yet to be clarified, but this frequent association should rise the diagnosis suspicion of CD in a context of persistent *Candida* infection.

Conflict of interest

The authors declare no conflicts of interest.

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