



Merry Christmas!

## PIC QUESTION OF THE WEEK: 12/21/09

Q: Can you provide some good sources of information on the gluten content of pharmaceuticals?

A: Gluten (L. *glue*) is the term used to identify a group of proteins found in some food products and pharmaceuticals that are responsible for the signs and symptoms associated with celiac disease. These proteins can be chemically separated into a number of groups, but the most significant are identified as prolamines. Gliadin is the specific alcohol-soluble fraction of wheat protein responsible for the immune response in the upper small intestine that results in destruction of villi and malabsorption of nutrients. Barley and rye also contain specific protein fractions that can produce similar effects. Celiac disease affects approximately 1% of the population and can be initially diagnosed from infancy through late adulthood. One of the major methods of managing the disease is to avoid exposure to wheat, barley, and rye. Although foods are typically considered the primary source of gluten, many underestimate the potential contribution of gluten contained in pharmaceutical dosage forms. Inactive ingredients in tablet and capsule formulations often consist of starches and other ingredients that may be derived from wheat. It should be noted that FDA approved starches also include those derived from corn and potatoes, both of which are considered safe for use in patients with celiac disease. The quantity of gluten protein necessary to induce symptoms is unpredictable, but 50 mg per day may be sufficient in highly susceptible patients. Pharmacists must become more aware of the unique characteristics of this disease, but also recognize that there are no lists that identify the gluten content of *all* dosage forms. The FDA currently does not require that this information be included in the product labeling, but many hope this will be accomplished. When unknown, the patient/pharmacist must contact the manufacturer to determine the content of each product. There are innumerable sites on the internet that may be of value when addressing this issue. The following two citations from *Hospital Pharmacy* were published this year and may be extremely useful to all professionals dealing with the topic. The *Gluten Free Drugs* site also provides free access to a variety of lists of gluten-free products.

- King AR. The impact of celiac sprue on patients' medication choices. *Hosp Pharm* 2009;44:105-6.
- King AR. Gluten content of the top 200 medications of 2008: a follow-up to the impact of celiac sprue on patients' medication choices. *Hosp Pharm* 2009;44:984-92.
- Gluten free drugs: a source of information on gluten free drugs. <http://www.glutenfreedugs.com/> Accessed December 17, 2009.

### References

- Gluten-free drugs for celiac disease. *Med Lett Drugs Ther* 2008;50:19-20.
- Green PHR, Cellier C. Celiac disease. *N Engl J Med* 2007;357:1731-43.
- Plogsted S. Medication and celiac disease – tips from a pharmacist. *Pract Gastroenterol* 2007;31:58-64. <http://www.healthsystem.virginia.edu/internet/digestive-health/nutritionarticles/PlogstedArticle.pdf> Accessed December 17, 2009.

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Samantha K. Adams and Brian R. Lohr, Pharm.D. Candidates

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