



### ***“I heard in the news...”***

Very often patients will start a conversation with the above phrase. The problem pharmacists face is keeping up with all of the media reports on different health related issues. Considering the smattering of news channels on satellite or cable TV, this is impossible. It is hard to comment on patient concerns without seeing or hearing the news item. Perhaps the patient missed important details or got some details mixed up. Maybe the media did not relay the information appropriately (ie. misinterpreted studies). Even if the pharmacist is able to view/hear the news item first hand, it takes time to research the references to ascertain the validity of the media's report. What follows are a few items that have hit the news recently and some help with interpreting the information.

### **CoEnzyme Q10 and Statins**

Dr. W. Gifford-Jones authored a column that appeared in a number of Canadian newspapers in the first week of October 2004. In this column, Dr. Gifford-Jones suggests that statin therapy can deplete the levels of CoEnzyme Q<sub>10</sub> (CoQ<sub>10</sub>) which can contribute to development of congestive heart failure(1). Dr. Gifford-Jones refers to several studies that have shown statin users have decreased amounts of CoQ<sub>10</sub> (1).

CoQ<sub>10</sub> functions as an electron carrier in the mitochondrial respiratory chain and as an intracellular antioxidant(2,3). Some scientists hypothesize that a deficiency of CoQ<sub>10</sub> is a major contributor to the well known adverse effects of rhabdomyolysis and myopathy associated with statin therapy.(3). Indeed, a number of studies have investigated the effect of statins on CoQ<sub>10</sub> (4,5,6,7,8). Most consistently, statins have reduced CoQ<sub>10</sub> levels (4,5,6,8). However, several of the studies measured the concentration of CoQ<sub>10</sub> only in the serum.(4,6,7) It has been suggested that serum concentrations cannot be considered indicative of intracellular concentrations(2,3) and that levels from platelets, lymphocytes and fibroblasts may be better indicators (2). Two studies have noted decreased concentrations in platelets(2) or lymphocytes(2). However, two studies have measured the intracellular CoQ<sub>10</sub> concentrations in skeletal muscle of statin users.(9,10) While the serum concentrations had decreased, the intracellular concentrations actually increased.(9,10)

One study looked at CoQ<sub>10</sub> levels in rats treated with high doses of cerivastatin compared to those treated with low dose cerivastatin. Muscle tissue degeneration (an indicator of myopathy) was apparent in the high dose group, but not the low dose.(11) The research revealed no significant difference in CoQ<sub>10</sub> levels in skeletal muscle where muscle degeneration was present compared to where it was not present. Similarly a correlation existed between CK levels and myopathy, but not between CK levels and CoQ<sub>10</sub>.(11) These findings may indicate that CoQ<sub>10</sub> deficiency is not a primary cause of myopathy.

Therefore, until further information is acquired, it seems too early to make any recommendations about supplementation with CoQ<sub>10</sub>. As an opinion letter suggests, statin use may decrease because of the scare of CoQ<sub>10</sub> levels.(12) While good evidence exists to demonstrate statins reduce the risk of death, myocardial infarction, and heart failure, the same evidence does not exist for CoQ<sub>10</sub> (12). Perhaps further evidence will reveal that CoQ<sub>10</sub> is a valuable supplement to statin therapy. Until that evidence surfaces, neither widespread supplementation of CoQ<sub>10</sub> in statin users nor discontinuation or avoidance of statin therapy is warranted.

## Acid-Reducing Drugs and Pneumonia

According to a broadcast of CTV news, “{H2-Antagonists and PPI’s} cut stomach acid, they also reduce the acid’s ability to fight off germs. That allows bacteria to migrate from the stomach into the lungs, triggering pneumonia.”(13) Some lay people may interpret the statement that the bacteria migrate and trigger pneumonia as pneumonia being an imminent event of taking an acid-reducing medication.

The study that precipitated this report involved a comprehensive analysis of medical records from a large European database of general medical practice(14). Increased gastric pH hampers one of the body’s defense mechanisms against microbials(14). Therefore, the objective of this study was to investigate if a relationship exists between the use of acid-suppressing drugs and the occurrence of community-acquired pneumonia(14). Aside from the inherent shortcoming of being a retrospective study, it was quite well-designed. Information arising from the study is as follows:

- ✓ Incidence rates of community-acquired pneumonia per 100 people years:
  - PPI users: 2.5
  - H2 Antagonist users: 2.3
  - Nonusers: 0.6
- ✓ This translates to 1 case of pneumonia per 226 patients treated with PPI and 1 case of pneumonia per 508 patients treated with H2 Antagonists.
- ✓ A dose-response relationship was established (Greatest risk among those using either higher doses of PPI or more than one acid-suppressing agent; greater risk among those using PPI’s and less severe risk among those using H2 Antagonists.)

The implication of this study is not that everyone on acid-suppressive therapy will develop community-acquired pneumonia as may have been interpreted by the media report. Alternatively, use of acid-suppressing drugs may be considered an additional risk factor for development of CAP alongside asthma, COPD, advanced age, children and immunocompromised patients(14).

## Vitamin E Supplementation

For years we have been hearing how good Vitamin E is for health. Many people supplement with Vitamin E in hopes of preventing chronic disease. However, a group of researchers has found that supplementation of Vitamin E in amounts higher than 400IU daily may increase one’s risk of mortality(15). Miller et al analyzed data from 19 clinical trials of vitamin E supplementation(15). There was no affect on mortality rates overall. However, in patients taking 400IU or more daily, there were found to be 38 more deaths per 10 000 people compared to placebo. Therefore, the authors suggest that high dose vitamin E supplementation should be avoided. What to tell your patients; perhaps that the amount of vitamin E in a once-a-day multivitamin is sufficient. These results may prompt reevaluation of high-dose vitamin and mineral supplementation.

## Want to lose weight and quit smoking?...

Of course any product that can make these claims will be showered with media, layperson and health care professional attention. The drug exists. However, the cynical pharmacist will require more evidence of efficacy than what is available. Acomplia® (rimonabant) by Sanofi-Pasteur has shown an average weight loss of 19 pounds over two years.(16) After one year, the percent of weight loss for placebo, 5mg daily and 20mg daily treatment groups were  $1.8\% \pm 5.9\%$ ,  $3.4\% \pm 5.6\%$ , and  $6.6 \pm 7.2\%$  respectively(17). As for smoking cessation, a ten week study was conducted in which cessation rates were 20.6%, 20.2% and 36.2% respectively among placebo, 5mg daily and 20mg daily treatment arms.(17) Rimonabant is only in Phase III trials. There has been no application made for FDA or HPB approval. The manufacturer is expected to apply for

FDA approval in 2005(16). Presumably, it will be awhile until rimonabant is available in Canada assuming it receives approval.

### **Herbal Weight Loss Products**

The products touted in the media and the internet are too numerous to list. A sample of products include: Lipovarin, Zantrex 3, Trimspa, and Estrin D. Many of the herbal weight loss products rely on the stimulatory effects of caffeine for their effect. However, be aware that many herbal ingredients are sources of caffeine but will not be listed as caffeine. The following ingredients are sources of caffeine: coffee, black tea, green tea, kola/cola nut, (yerba) mate, and guarana(18). Keep in mind that ma huang is the equivalent of ephedrine(18). Many herbal weight loss products contain several of these ingredients. Probably most of the herbal weight loss products are no more effective than drinking coffee and also have the inherent risks associated with stimulant use.

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