

## Anticholinergics in the Elderly

# Prescribing...

- ✚ Despite the relatively high intake of medicines with anticholinergic properties by elderly people, their long-term effects on cognitive decline and dementia have rarely been evaluated.
- ✚ A study published some time ago in France evaluated the effects of these drugs on a cohort of nearly 7,000 men and women aged 65 years and older over 4 years.
- ✚ Anticholinergic drug use at baseline was associated with greater decline in cognitive decline in both men and women for a variety of markers.
- ✚ There was no increased risk in participants who discontinued treatment.
- ✚ Incidence of dementia was also higher in users of anticholinergic drugs but not in those who discontinued use.

In the absence of an effective treatment for age-related neurodegenerative disorder, research has focused on the identification of potential risk factors in order to delay decline and to prolong personal autonomy. Reversible drug-induced cognitive impairment has been previously described in clinical studies but these studies have been focused on acute or short-term administration. Few studies have been undertaken in the community despite the relatively high intake of over-the-counter or prescription drugs consumed by the elderly. A French study, summarised in this bulletin, adds to our understanding of the effect of long term anticholinergic use on cognitive decline in the elderly.

### What was the study population?

Participants were recruited from three French cities from 1999 to 2001. They were all aged 65 years or older and were living in the community. It included 4128 women and 2784 men.

### What were the outcome measures?

A range of tests assessed different areas of cognitive functioning, including verbal fluency, visual memory, psychomotor speed and executive function. Another highly significant outcome measure was a diagnosis of dementia and its period of onset.

### What drugs were being taken by the participants?

In this community-dwelling population 7.5% were taking anticholinergic drugs at baseline. 6.9% were taking two simultaneously and 1.5% were taking three simultaneously.

The main classes were as follows

Antidepressants : 1.9%	Cardiovascular medication : 0.5%
Digestive antispasmodics : 1.6%	Antiepileptics : 0.5%
Genito-urinary antispasmodics : 1.3%	Antipsychotics : 0.3%
H1 Antihistamines : 1.0%	Antiasthmatics : 0.1%
Anxiolytics 0.9%	Antiparkinson drugs : 0.1%

### What were the results?

The study found that the female participants on anticholinergics at baseline showed greater decline over four years in verbal fluency scores and in global cognitive functioning than the females

not on anticholinergics. In men an association was found with decline in visual memory and to a lesser extent in executive function.

It was also found that the oldest women were at higher risk of global cognitive decline. The data from this study did not find an age-related vulnerability in men, but the authors pointed out that this may be due to lower numbers of men in the sample. Elderly people are known to be more sensitive than the young to cognitive toxic effects associated with acute anticholinergic use.

#### **What were the effects on dementia?**

An association between anticholinergic use at baseline and the risk of developing dementia over four years was also found. Chronic anticholinergic users were at higher risk of incident dementia than non-users. This has not been previously reported in studies but it does agree with studies on autopsied patients with Parkinson's disease treated with anticholinergics. Alzheimer-type disease was observed in patients who had been treated for more than two years compared with those treated with short-term anticholinergics or untreated patients.

The authors suggest that one explanation for the increased incidence is neurotransmitter downregulation. There is also the possibility of misdiagnosis of early dementia when in fact the patients are experiencing cognitive decline secondary to anticholinergic drug use.

#### **What if the drugs were stopped?**

Discontinuing anticholinergic use was found to be associated with a decreased risk of cognitive decline and of developing dementia.

#### **So what?**

This was a French study so some caution must be exercised when extrapolating the results to our local patients. However it has many strengths including a large sample size, lengthy follow up of four years and the use of patient-oriented outcomes. Therefore its results can be taken seriously.

Some anticholinergic use in elderly people is unavoidable and the benefits will continue to outweigh the risks. However the results of this study should remind us of the importance of minimising avoidable use of anticholinergics in this age group.

There is evidence from one UK study that patients on hypnotics would like to be given the opportunity to try reducing or stopping their use of these drugs. Interestingly the investigators concluded that doctors tended to over-estimate the difficulties of stopping. Patients who did manage to stop reported improvements in sleep quality and in quality of life.

The results of this study may be also be a useful counselling point in consultations with older patients requesting anticholinergics. They may also be helpful in motivating patients to reduce or stop anticholinergic use.

#### **In summary**

- ✚ Long-term anticholinergic use by elderly people may increase the rate of cognitive decline and the risk of developing incident dementia.
- ✚ Elderly women may be more at risk than elderly men.

**Written by:** Geraldine O'Riordan, Prescribing Advisor Tel: 01481-732460

- References:** 1. Carriere, Isabelle et al Drugs with Anticholinergic Properties, Cognitive Decline and Dementia in an Elderly General Population. Arch Int Med Vol 169, (no 14) July 27 2009.  
2. NPCi : <http://www.npci.org.uk/lift/lift.php>