

# Benzos and memory loss: more than just 'old age'

Benzodiazepines have long been known to affect memory. This is not surprising as they belong to the general group of CNS depressants that includes alcohol and the barbiturates, drugs that are notorious for their amnesic effects. Recently, the hypnotic benzodiazepine triazolam (Halcion) was removed from the UK market. One of the reasons given was 'loss of memory'. Are these effects on memory idiosyncrasies of the occasional patient or are they expressions of an intrinsic activity of this group of drugs? And if the latter, what should the prescriber do?

### Recognition of amnesic effect

The benzodiazepines have been used for the past 30 years to lessen anxiety, promote sleep, prevent and treat fits, induce muscle relaxation and to act as preoperative medication. Amnesic effects were recognised early on by anaesthetists who, indeed, welcomed a premedicant drug that resulted in the patient forgetting unpleasant diagnostic or operative procedures such as gastroscopy. In this usage, fairly large doses of benzodiazepines are given intravenously.

However, many reports have accrued over the years of patients taking oral doses of a benzodiazepine and then suffering from an amnesic episode, a lapse of memory or 'black-out'. The patient behaves quite purposefully, *eg* changes planes at an airport, but has no recollection of events subsequently. Such reports have involved all the benzodiazepines but lorazepam and triazolam seem particularly implicated. The amnesic episodes usually follow the sporadic use of a high dose of benzodiazepine, and are particularly likely if alcohol is taken as well. In some rare instances antisocial behaviour, even involving homicide, seems to have occurred during such an episode.

Reports have also accrued of more persistent memory impairments in patients taking a benzodiazepine on a regular basis. The elderly taking a hypnotic seem particularly at risk: about 15 per cent of the over-65s take hypnotic drugs, and of those 75 per cent have used them regularly for over a year, 25 per cent (*ie* about 4 per cent of the total) for over 10 years. As these chronic users age, they become more sensitive to the benzodi-

azepine and have lapses of memory, ending up in a chronically confused state. Longer-acting benzodiazepines tend to accumulate in the elderly and induce such toxicity.

### Aspects of memory loss

A large number of laboratory studies, mostly in young volunteer subjects, have examined the effects of various benzodiazepines on different aspects of memory. These drugs do not affect performance of tasks that involve remembering items such as a few digits for a period of seconds, but they do impair the speed and perhaps the accuracy with which information is processed in the brain. They also consistently impair the acquisition of current experience, *eg* what was eaten for breakfast. Remembering words - so-called semantic memory - is not affected. Retrieval of information, *ie* access to long-term memory stores, is also unaffected.

Thus, benzodiazepines seem to have a fairly specific effect in impairing our acquisition of memory concerning our everyday life. This operates whether we are consciously trying to remember things or remember them only incidentally. Among the benzodiazepines, lorazepam, triazolam and perhaps alprazolam (not NHS prescribable) seem to have a particularly marked effect.

### What should the prescriber do?

Amnesic episodes are uncommon but nevertheless the patient should be warned to report any difficulties in memory. He or she may need to keep lists because of forgetfulness. However, the most important precaution is to use benzodiazepines sparingly, in minimal dose, for the shortest possible time. Attention should be focused on the elderly user of hypnotics: forgetfulness, amnesic episodes or confusion should not be ascribed facilely to 'old age' or 'dementia'. The benzodiazepine must be withdrawn and the patient re-assessed. Failure to do this will condemn the patient to a twilight life that could so easily be avoided by careful and regular monitoring.

Malcolm Lader, professor of clinical psychopharmacology, Institute of Psychiatry, London