Link between Alzheimer’s disease and benzodiazepines suspected

While the acute effects of benzodiazepines on memory and cognition are well documented, the possibility that they increase risk of dementia is still debated. This study matched 1,796 people with a diagnosis of Alzheimer’s with 7,184 people over the age of 66 who did not have the condition. The researchers examined benzodiazepine use begun at least five years before the start of the study. Findings showed an association with increased risk of Alzheimer’s disease.

There are several possible reasons for this. It may be that mid-life anxiety and sleeplessness, for which the benzodiazepine was prescribed, is an early marker of Alzheimer’s or that prolonged use of the drug reduces cognitive reserve. However, the researchers believe that their study reinforces the possibility of a direct link between benzodiazepine use and the development of Alzheimer’s. They emphasise that duration of benzodiazepine prescription should be no more than three months.


Diagnosing and managing delirium

Often fatal and under-recognised, delirium is a common condition. The person can be hyperactive or hypoactive but the hypoactive form is more common in older people. Although a single factor can lead to delirium, in older people it is more likely to be multifactorial and could be a marker of a vulnerable brain with reduced reserve capacity.

Causes of delirium include inflammation, electrolyte imbalance, hypoxia or altered neurotransmitter levels, usually cholinergic deficiency or dopamine excess. It can be the harbinger of a medical emergency.

In octogenarians myocardial infarction presents more often with delirium than with chest pain.

Important diagnostic features include acute onset and fluctuating course, inattention, impaired consciousness and disturbance in cognition, for example, disorientation, memory impairment and language change. There may also be disturbances in sleep-wake cycle, hallucinations, inappropriate behaviour and emotional lability.

Many assessment tools are available but, when time is short, tests such as naming the days of the week backwards can be used to see if the patient fulfils the criteria for delirium. Those too lethargic to complete the test should be treated as having delirium until proven otherwise.

Non-pharmacological approaches to management include treating infection and hypoxia; maintaining hydration and nutrition; reducing anxiety and promoting sleep by using music, massage and relaxation techniques. Sleep can also be improved by discouraging daytime napping, exposure to high light levels during the day and using less toxic sleep-enhancing medication such as melatonin. Pharmacological treatment, using low doses of haloperidol, should be reserved for severe psychosis.


Best practice when administering drugs by subcutaneous injection

Drugs that require slow, sustained absorption are given subcutaneously. The medication is injected beneath the epidermis into the fat and connective tissue where there is less blood flow than in the underlying muscle. Absorption is most rapid from the abdomen, slower from the upper arm and slower still from the thigh, hip and buttock. The arm tends to be less painful but the abdomen is usually chosen because it has a thicker subcutaneous layer.

It is important to rotate injection sites, by moving at least one finger width from the last injection, to avoid build-up of lipohypertrophies.

When using a 5, 6 or 8mm needle the recommended angle of injection is 90°. To minimise the risk of muscle being penetrated the skin should be lifted between the thumb and two fingers of one hand and held until the injection is complete. The area should not be massaged afterwards as this can cause bruising with heparin and increase absorption time with insulin.

The air bubble should not be removed from pre-filled syringes as this is designed to remain next to the plunger and ensure that the whole dose is delivered.