Vaccine improves memory in "Alzheimer's" mice

Abi Berger *BMJ*

Reports of a successful vaccine against Alzheimer's disease are causing excitement in the scientific community. The vaccine induces an immune response specifically against beta-amyloid (the protein that makes up senile plaques in Alzheimer's) and has been shown to reduce and pre-

vent plaque formation in mice. Scientists have now shown that vaccination with this peptide is also associated with an improvement in cognitive function (*Nature* 2000;408:979-84).

Although a number of pathophysiological changes occur in the brains of people who develop Alzheimer's disease, beta-amyloid and its precursor protein are known to have a central role in how the disease comes about. About a year ago, Elan Pharmaceuticals reported immunisation of a transgenic mouse model with the beta-amyloid peptide. The mouse model was genetically engineered to mimic Alzheimer's, and after immunisation it was shown that the number of beta-amyloid plaques in the brains of these animals was significantly reduced. The researchers did not at that time look for any effects on cognition.

Mice are considered a good animal model for Alzheimer's disease, and as there are no primate models the next step would be to test any vaccine in humans. Now, as reported in *Nature*, two separate research teams have replicated and extended these results, showing that vaccination was also accompanied by a corresponding improvement in cognitive and memory functions. The cognitive skills of the mice were tested using a water maze. The level of cognitive function required to master

Doctors Juliet Nelson, Peter Hambly (right, front) and Bob Baker (right, back) entertaining guests at the *BMJ's* first Christmas Revue at Wilton's Music Hall, east London, on 12 December.

the maze roughly equates with the sort of cognitive and memory skills needed by human beings trying to find their way from one location to another (from home to the shops and back, for example). Such deficits are commonly encountered in patients with Alzheimer's when they start wandering.

Professor Peter St George-Hyslop, professor of medicine and neurology, and his team at the University of Toronto, authors of one of the papers, immunised about 30 normal and 30 transgenic mice with either beta-amyloid peptide or placebo protein. The normal mice dis-

played no changes after immunisation with either protein. The transgenic mice immunised with placebo gave a progressively poorer performance in the water maze and had increasing deposits of beta-amyloid peptide in senile plaques. In contrast, transgenic mice immunised with beta-amyloid peptide achieved a good performance, which was about 75% of that achieved by the healthy mice. These changes in function were detectable four weeks after immunisation and lasted at least four months. Improvement in function was accompanied by a 50% reduction in plaque formation. □

GP stuck off for agreeing to perform female circumcision

Owen Dyer *London*

A general practitioner has been struck off by the General Medical Council in London for agreeing to perform the illegal operation of female circumcision. Dr Abdul Baten Jalal Ahmed's offer was secretly videotaped by a Channel 4 journalist who had herself been circumcised as a young girl in Somalia.

Dr Ahmed was working in Manchester when he was contacted by an undercover journalist working on the Channel 4 documentary "Cutting the Rose," which was screened in 1997. The woman, named simply Amina in the film, asked him if he could remove her 8 year old daughter's clitoris and perform similar operations on two daughters of a friend.

Invited to Dr Ahmed's home for further discussion, Amina brought a concealed video camera. The recorded conversation was shown to the professional conduct committee of the GMC.

Dr Ahmed was heard apparently suggesting Friday as a good

day to perform the operation. He later said: "I will perform the operation at my home today. It will not be free, it will cost £50."

Dr Ahmed, who qualified in

Struck off: Dr Abdul Baten Jalal Ahmed

Calcutta in 1962, told the committee that the tape had been doctored. His counsel, Alan Jenkins, argued that Dr Ahmed was hard of hearing and had believed he was being asked to circumcise boys.

Professor Denis McDevitt, chairing the disciplinary committee, told Dr Ahmed he did not find this defence credible. Members of the committee, he said, were "appalled by the evidence they have heard of your offer, given in your capacity as a registered medical practitioner, to perform an abhorrent, mutilating, and illegal operation on female children for which it has not been suggested that there was any medical justification." □