tangles, granulovacular degeneration, and congophilic angiopathy. A correlation has been shown between the degree of dementia and the number of senile plaques. These senile plaques consist of a dense core of extracellular amyloid, surrounded by mitochondria, lysosomes, and axonal boutons. Affected areas show increased oxidative and hydrolyase activity. Immunoglobulins have been shown to be associated with amyloid in the senile plaques. The cells concerned may be macrophages or microglia or both: such cells are invariably found with the amyloid that is detectable in the brains of aged dogs. The congophilic angiopathy is due to amyloid in the subependthelial layer of cerebral capillaries and in the intima and media of cerebral arteries and veins; the source of the amyloid is probably the serum.

Myeloproliferative disorders are more common than would be expected in first-degree relatives of patients with Alzheimer's disease; this may be due to a primary or secondary abnormality of the microtubules dealing with cell division. No definite association has been found between Alzheimer's disease and any of the major histocompatibility haplotypes. No lymphocyte abnormalities have been found after comparison with controls matched for age and sex. Serum antibodies against neurones have been identified, but in detailed studies done in Glasgow and London these antibodies have also been shown in patients with other conditions (H Watts, P Kennedy, M A Thomas, paper in preparation). Studies on cerebral concentrations of aluminium and silicon have yielded conflicting results, but there is some evidence of an increase in patients with the disease. No virus has been isolated or transmitted from patients, but one important discovery has been that senile plaques appear in specific strains of aged mice when they are infected with certain scrapie agents. Disturbances in the metabolism of neurotransmitters have been widely reported, affecting in particular the cholinergic system and resulting in depletion of choline acetyltransferase and acetylcholine esterase. These findings suggest that there is either loss of cholinergic cells or degeneration of cholinergic terminals. In clinical studies in which patients were given choline or choline-containing substances, however, these agents were ineffective in improving or halting progression of the illness. Recently a far wider disturbance of neurotransmitter systems has been postulated, with the dopamine, gamma-aminobutyric acid, and noradrenergic systems all affected. Despite the plethora of hypotheses, however, objective analysis of all the data—immunological, genetic, virological, pathological, and biochemical—shows that we still have no idea of the aetiology of Alzheimer's disease.

Audit in general practice

Whoever coined the phrase medical audit has a lot to answer for. In everyday speech, auditors are cold, authoritarian figures who visit an organisation to detect fraud, incompetence, or inefficiency and report back to some central organisation. In medical practice, audit is a self-monitoring procedure carried out by doctors on their own work and reported only to the participants. Yet the authoritarian image persists and was present, like Banquo’s ghost, for much of the day at the conference last week at BMA House on medical audit in general practice (p 1440). If nothing else resulted from that meeting, it should finally have stilled any fears among GPs that the BMA’s General Medical Services Committee or the Royal College of General Practitioners, which jointly organised the occasion, had any plans for a corps of inspectors.

Like many new concepts in medicine, audit has not always been helped by the efforts of its enthusiasts to convince the doubters. Talk of process and outcome and of a whole plethora of abstract concepts clouds the simplicity of the idea: that doctors should look at their daily work to see if they can improve it. The examples described at the conference were everyday problems. Are all the home visits by the practice nurses necessary? How helpful are midstream urine examinations in treating urinary infections? Could the care of epileptic patients be improved? In such cases, the doctors in a group practice can learn an enormous amount by recording exactly what they do, comparing their actual practice with what they thought they did, and deciding after discussion among themselves what they will do in future. The crucial step, however, is the final one: repeating the exercise after an interval to see whether the good intentions have actually been carried through.

What the advocates of audit now need to do is to convince the sceptics and the silent, indifferent majority that the effort is worth while. Many innovations in general practice are intellectually stimulating but make little difference to the quality of care provided to patients. Do auditing procedures have long-lasting effects—and how can these be measured? The evidence so far is very persuasive. The enthusiasts should recognise, however, that many general practitioners will want to move at their own pace—as they did in adopting ideas such as health centres and group practice premises, attached nurses, appointment systems, and deputising services. These have come into the mainstream of general practice because the majority became convinced that they were cost effective and of real practical value. If medical audit passes the same pragmatic tests it, too, will become routine within a generation.