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Previously we have shown that foetal ovarian levels of T21 mosaicism may explain the origin of Down syndrome (DS) and the associated maternal age effect. DS individuals reaching ~40 years of age will develop AD, T21 leading to increased amyloidosis. Importantly, normal women, who have had a DS child at a young age, develop AD at an earlier age than other women. Alzheimer's disease (AD) has two types: early-onset and late-onset. Both types have genetic links. For early-onset the identification of the genes involved have provided good evidence for the amyloid cascade hypothesis. The majority of AD however is sporadic and a number of susceptibility loci have been identified (notably ApoE ϵ 4). While more will be uncovered through genome wide association scans, brain aneuploidy may also have a role. Recently a dramatic demonstration of increased chromosome 21 aneuploidy in AD brains ((6–15% versus 0.8–1.8% in control) has demonstrated that this may well contribute to disease pathology. We are currently determining whether the level of T21 mosaicism seen in foetal brain correlates with that seen in foetal ovaries. We hope to ascertain whether T21 mosaicism is likely to play a major role for the origin of sporadic AD.