Abdominal fat, hypertension and cognitive impairment

Body composition changes with advancing age, resulting in an increase in abdominal fat. Central obesity is also a well recognised risk factor for cardiovascular disease and mortality. A research paper has investigated the relationship between central and peripheral fat mass measurements and aortic and peripheral blood pressure in 216 older people attending an out-patient clinic (pp. 534–540). Dual energy X-ray absorptiometry was used to measure body composition, including central and peripheral fat. The peripheral systolic and diastolic blood pressure was measured using an automatic oscillometric device, whereas aortic blood pressure readings were calculated and other aortic variables derived from radial artery waveform measurements using a SphygmoCor device. The authors report that central fat measurements were positively associated with the peripheral and aortic systolic blood pressure and pulse pressure, but this was not the case for peripheral fat measurements. They also found a positive association between central fat mass measurements and augmentation pressure, an index of arterial stiffness. They conclude that the influence of central fat mass on blood pressure reported in younger populations is still present in old age. An accompanying editorial highlights that preventing the increase in abdominal fat with advancing age is important in reducing the risk of cardiovascular disease in older people (pp. 427–428).

Another research paper explores the relationship between abdominal fat and cognitive function in 250 Korean men and women aged 60 years and older, who underwent anthropometric measurements, abdominal computerised tomography (CT) measurement of visceral and subcutaneous adipose tissue and cognitive testing using the Korean version of the Mini-Mental State Examination (pp. 456–461). Multivariate logistic regression analyses showed that a high body mass index or being in the top tertile of the visceral adiposity area were associated with poorer cognitive function in younger subjects aged 60–70 years, but this association was not found in the older participants. The relationship between central obesity and cognitive function has been documented previously, albeit not using abdominal CT measurements, but the reason for the apparent attenuation of the association with advancing age is unclear. The authors suggest that this may be due to weight loss related to underlying dementia or to hyperinsulinaemia, which precedes weight loss and is related to an increased risk of dementia. Although they acknowledge that causal inferences cannot be made from a cross-sectional study, they speculate that avoiding central obesity might be important for the prevention of cognitive impairment or dementia. The challenge is to prove that reduction in central obesity is effective in preventing cognitive decline and develop effective strategies to address this.

Parity and later life mortality

There has been considerable interest in the relationship between reproductive factors in women, such as parity and age at menopause, and the development of diseases and mortality in later life (pp. 523–528). Previous studies investigating the effect of parity on mortality have yielded conflicting results, but in general show a greater mortality in nulliparous women. A research paper has investigated the relationship between the number of offspring and later life mortality in 1,571 women and 1,233 men who took part in the Dubbo Study in Australia (pp. 523–528). The study participants were all aged 60 years and older when baseline assessment was performed in 1988–89, and were then followed up over a 16 year period. Overall mortality declined with increasing parity in women, even after adjustment for potential confounders and was associated with a parallel decrease in deaths from cancer and respiratory conditions. Interestingly, there was a trend for reduced mortality in men with increasing number of children, although this was not statistically significant. Similar findings have been reported from Norway and Israel, suggesting that the effect of parity on mortality may be mediated in part by mechanisms not directly related to pregnancy, such as lifestyle and other psychosocial factors. As often appears to be the case, epidemiological studies raise as many questions as they answer!

Virtual reality gaming and balance

There is growing interest in the use of virtual reality gaming in the improvement of balance and prevention of falls in older people. This issue includes a short report of a small randomised controlled trial of the effect of the use of a Wii Fit and Balance Board (pp. 549–552). Forty older people were randomised to receive three different balance interventions three times weekly for 6 weeks or to serve in the control group. When compared with the control subjects, the intervention group showed a significant improvement in the timed Get up and Go Test and the Activities-specific Balance Confidence Scale. The authors acknowledge the limitations of their study in the discussion, but highlight the need for further studies.

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