with mortality. The hazard ratios for the interaction terms between dementia status and leg length (0.93: 95% CI 0.86 to 1.01) and dementia status and skull circumference (0.86; 95% CI 0.69 to 1.06) were also not statistically significant.

In our sample, leg lengths shrank over time, but at a similar rate among people with dementia, and those with cognitive impairment but no dementia. Reductions in leg length may reflect decreasing ability to extend the lower limb rather than changes in skeletal dimensions. Skull circumferences do not seem to shrink over time, again not modified by dementia status. Cognitive decline is not associated with change in either leg length or skull circumference. While skull circumferences show no directional trend for change over time, repeated measures are less stable than repeated measures of leg length, probably because of greater measurement error. There is therefore no evidence that reverse causality – dementia causing skulls and legs to shrink – can account for inverse associations between skull circumference and leg length, and dementia. Loss to follow-up and small sample size both limit the inferences to be drawn from these negative findings. Lack of precision may have resulted in type 2 error or bias in differences in change in dimensions between those with and without dementia. Also, repeated measures of skulls and legs were not carried out in the baseline sample of people with normal cognitive function. Had leg lengths not shrunk in this group, then our findings could still be consistent with reverse causality. However, for the association with skull circumference to be accounted for by reverse causality, skull circumferences would have had to increase in those without cognitive impairment. Neither baseline skull circumference nor leg length was associated with mortality, with no effect modification by dementia status. The direction of the trend in the interaction terms suggests that mortality bias would, if anything, have led to an underestimation of any protective effect of longer legs and larger skulls on dementia incidence.

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The needle has been blunt for 20 years

The growing need for lumbar puncture in order to obtain cerebrospinal fluid (CSF) for the diagnosis Alzheimer's disease is becoming increasingly apparent (Herskovits and Growdon, 2010). The concept of a CSF sampling unit specializing in lumbar puncture would seem the most plausible solution. Physicians and interns are not necessarily skilled in the procedure and neurologists perform lumbar puncture rarely.

As anesthetists and scientists involved in researching post-operative cognitive dysfunction (POCD), we have been sampling CSF in patients who receive spinal anesthesia for total hip joint replacement surgery. This can be done simply, quickly and efficiently before the spinal anesthetic is injected. Anesthetists have expertise in lumbar puncture because spinal anesthesia is an integral part of modern anesthetic practice. For example, in our non-obstetric hospital we perform 12,000 anesthetics a year of which at least 2000 are spinals. The majority of Caesarean sections in our region are performed using spinal anesthesia.

Spinal anesthesia has fluctuated in popularity over the years and in different countries. The introduction of small diameter atraumatic spinal needles in the 1990s was accompanied by an increase in its use. Atraumatic needles have a tip in the shape of a pencil point that tends to part rather than cut the dura resulting in a marked decrease in the incidence of post spinal headache. Current data suggest that the use of a small (27 gauge) atraumatic needle reduces the headache rate to less than 0.5%. (Santanen *et al.*, 2004) Unfortunately, neurologists have been slow to adopt these needles (Arendt *et al.*, 2009), despite recommendations from the American Academy of Neurology (Armon and Evans, 2005). This may be due to the slight increase in technical difficulty with their use.

Anesthetists become skilled in this procedure as part of normal training. In particular, they are adept at following meticulous sterile techniques and are cognizant of the risks and complications. In addition to headache, these include rare complications such as bleeding, infection and neurological injury. Anesthetists are alert to the contraindications, such as abnormal clotting due to disease or more commonly due to the widespread use of anticoagulant and antiplatelet therapies, which are now so common among the elderly. Finally, anesthetists are able to perform blood patches to treat refractory post-spinal headache on the rare occasions it occurs.

It therefore seems most appropriate for anesthetists to be involved in performing lumbar punctures in CSF sampling clinics. The question of whether those receiving routine spinal anesthesia, should be given the option of having a CSF sample collected at the time deserves serious consideration, especially among the middle aged.

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Is there any additional evidence for the epidemiological transition hypothesis of elderly suicides?

A recent study reported the relationship between suicide rates in both sexes in the age bands 65–74 and 75+ years and the Gross National Domestic Product (GDP), a measure of socio-economic status, as being curvilinear (inverted U-shaped curve) and fitting the quadratic equation $y = a + bx–cx^2$ (where y is the suicide rate, x is the Gini coefficient and a, b and c are constants) (Shah, 2010). This relationship was explained using the epidemiological transition hypothesis (Shah and Bhat, 2010) and the explanatory model included the following sequence of events (Shah, 2010): (i) countries with low socio-economic status have poorly developed healthcare system; (ii) a poorly developed healthcare system is associated with increased child mortality; (iii) increased child mortality rates result in reduced life expectancy; and (iv) reduced life expectancy leads to fewer people reaching old age, the age at which the risk of suicide is high. In order to provide support for this hypothesis other data sources related to socio-economic status, quality and quantity of healthcare services and life expectancy were examined.

Data on suicide rates in both sexes in the age bands 65–74 and 75+ years were ascertained from the World Health Organization website (http://www.who.int/whosis/database/mort/table1.cfm) for the latest five consecutive years. In order to minimize the effect of random annual variations in suicides rates, an annual average of the five years was used for data analysis (Shah and Coupe, 2009). The