

# MINERVA

## Stratifying risk of retinopathy in diabetes and other stories . . .

A systematic review by the OPEN Project (To Overcome failure to Publish nEgative fiNdings)—an initiative funded by the European Commission—looked at 39 studies covering more than 20 000 clinical trials (*PLoS One* 2014;9:e0114023, doi:10.1371/journal.pone.0114023). The authors estimate that only 53% of registered clinical trials have been published. They also found that trials with significant or positive results were about three times more likely to be published than those with non-significant or negative results. How much longer is clinical decision making going to be based on a biased sample of half the evidence?

Every person with diabetes in the UK is offered retinal screening at least once a year. When 354 549 patients were observed for up to four years, 16 196 (4.6%) of them progressed to referable retinopathy (*Diabetes Care* 2014, doi:10.2337/dc14-1778).

After examining factors such as disease duration and the initial pattern of retinal changes, the investigators conclude that “It may be possible to stratify patients for risk, according to baseline retinal criteria, into groups with low and high risk of their conditions progressing to proliferative retinopathy. Screening intervals for such diverse groups of patients could safely be modified according to their risk.”

Infants in a new study of vitamin D and fetal outcomes were born at latitude 32° south, in Perth, Australia. Despite their 23° latitude advantage over those in Perth, Scotland, 36% of a cohort of mothers tested from 1989-91 had serum vitamin D values below 50 nmol/L at 18 weeks pregnancy (*Pediatrics* 2014, doi:10.1542/peds.2014-1860). After adjusting for relevant covariates, this was associated with impaired lung development in 6 year old offspring, neurocognitive difficulties at age 10, increased risk of eating disorders in adolescence, and lower peak bone mass at 20 years.

Getting a second cancer because of treatment for the first is a sadly familiar problem with childhood cancers, but has also been seen in some common adult cancers. A study of bone marrow cancers in 20 063 patients with breast cancer who had received adjuvant radiotherapy, with or without chemotherapy, finds that they are rare, but slightly more common than previously predicted (50 over five years). There is also evidence that the increased risk continues over a longer period (*Journal of Clinical Oncology* 2014, doi:10.1200/JCO.2013.54.6119).

Minerva doesn't usually welcome new investigations to predict cardiovascular risk, feeling that we have quite enough already.

But she has long been a fan of the work of Michael O'Rourke in highlighting the role of arterial stiffening in cardiac overload in older people, and is pleased to see that younger Australians are carrying on his good work. Researchers measured the carotid artery waveforms in 838 patients of mean age 72 years with systolic hypertension and found that they could derive a constant ( $k_s$ ) that defines the systolic reservoir wave pressure and is highly predictive of clinical events (*Hypertension* 2014, doi:10.1161/HYPERTENSIONAHA.114.04824). For buffs only at this point.

The Born in Bradford cohort study examines the impact of environmental, genetic, and social factors on health in that Yorkshire city. As part of it, growth patterns were compared in 602 children of white British origin and 762 of Pakistani origin (*Journal of Epidemiology and Community Health* 2014, doi:10.1136/jech-2014-204571). On average, Pakistani children were 190 g lighter than white British children at birth. Thereafter, three distinct growth patterns were seen: normal (95.9%), fast (2.5%), and slow (1.6%). Compared with the children from white British families, Pakistani children showed a greater tendency to be at the two extremes.

Early detection of sepsis using rapid assay biomarkers has been extensively studied in the past decade, mostly using C reactive protein or procalcitonin. The new kid on the block is called presepsin—a good name. A study exploring its use to detect late onset sepsis in preterm newborns shows excellent predictive characteristics and it easily outperforms the older tests (*Pediatrics* 2014, doi:10.1542/peds.2014-1755). Expect to hear much more about presepsin in different contexts.

Before it kills you, it commands your brain to do things that will spread contagion to others. Then it eats up your insides and sprouts black fungal stalks through your eyes. But relax: unless you are a ghost moth larva, this does not apply. *Ophiocordyceps sinensis* is harvested mostly in the remote Himalayas, where its small spikes are well camouflaged by the soil. As a result, it is hard to come by, and this has even led to armed conflict between searchers because it commands high prices as a traditional Chinese medicine. It is sometimes used in chronic renal disease, but the latest Cochrane review (*Cochrane Database Syst Rev* 2014;12:CD008353, doi:10.1002/14651858.CD008353.pub2) suggests that the evidence is not of top quality.

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