Short cuts

What's new in the other general journals

Adiposity, including overweight, is linked with higher mortality

Two large observational studies provide new evidence on the association of the body mass index (weight (kg)/(height (m)²)) and mortality. In the United States, a study included more than half a million people aged 50 to 71 years at baseline who were followed up for a decade. More than 60 000 participants died during follow-up. Initially, the relationship between body mass index and mortality was U shaped. Being underweight or obese bore an increased risk of death, whereas the risk for overweight people was slightly increased compared with that for people of normal weight, and risk did not reach statistical significance in some groups.

The large sample allowed precise subgroup analyses—the cohort included more than 186 000 people who never smoked. As smoking is associated with lower body mass index and increased mortality, it distorts the relationship between the two. The association between the body mass index and mortality was J shaped when only people who never smoked were analysed, with being obese having a greater increased risk of death than being underweight. In people who never smoked, even small increases in body mass index (normal range 18.5 to 24.9) conveyed a substantially increased risk of death. Overweight people aged 50 years were between 20% and 40% more likely to die than people with body mass index between 23.5 and 24.9.

In Korea, a prospective cohort study included more than a million people aged between 30 and 95 years and followed them up for 12 years. The relationship between the body mass index and mortality was J shaped. Lower body mass index was

associated with an increased risk of dying from respiratory diseases, whereas higher body mass index conferred a greater risk of dying from cardiovascular disease or cancer.

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Pay for performance needs better research and design

Although pay for performance is increasingly used to improve the quality of health care, research on the effectiveness and possible unintended effects of such measures is scarce. A systematic review of the literature found 17 empirical studies (including nine randomised trials) that measured quality of care in relation to direct financial incentives provided for individual clinicians or organisations.

Most studies found partial or positive effects on measures of quality, which mainly looked at processes of care and not the quality of care received by individual patients. Only one study assessed cost effectiveness.

Unfavourable unintended effects were also seen: improvements often related to documentation rather than delivered care, and incentives sometimes encouraged reducing access to care for the most ill patients. Pay for performance initiatives need to be better researched and designed, argue the authors.

Ann Intern Med 2006;145:265-72

Chaperonin 10 shows promise for treating rheumatoid arthritis

A small randomised double blind multicentre proof of principle study examined the safety and effects of dose ranging treatment with chaperonin 10 (also called heat shock protein 10) for treating rheumatoid arthritis. Inside cells, chaperonin 10 plays a role in protein folding, but extracellular chaperonin 10 has anti-inflammatory and immunomodulatory properties that are achieved by inhibiting downstream events in pathways activated by the toll-like receptors, which are highly expressed in synovial tissue.

Twenty three people with moderate or severe rheumatoid arthritis, who were all receiving disease modifying antirheumatic drugs, were randomised to receive additional intravenous chaperonin 10 twice weekly for 12 weeks at doses of 5 mg, 7.5 mg, or 10 mg. Primary outcomes, the change in disease activity score (DAS28) and improvement of

core disease measures (American College of Rheumatology response score), improved in all groups during the first two weeks of the study, and continued to improve until the end of follow-up.

All patients experienced some adverse events; these were judged as mild in 12, moderate in 10, and severe in one (myalgia). The most common adverse events were exacerbations of rheumatoid arthritis and upper respiratory tract infections. The study should inform the design of larger randomised trials.

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Daptomycin may be as good as standard treatment for *S aureus* bacteraemia

A randomised trial of daptomycin (a cyclic lipopeptide antibiotic) versus standard treatment (initial low-dose gentamicin plus either an antistaphylococcal penicillin or vancomycin) in 124 patients with bacteraemia caused by *Staphylococcus aureus* showed that daptomycin was not inferior to standard treatment.

Daptomycin was given in a dose of 6 mg per kilogram of body mass intravenously each day. Successful outcomes were recorded for 44.2% of patients randomised to daptomycin and 41.7% of patients who received standard therapy (absolute difference 2.4%, 95% CI –10.2% to 15.1%), which met the prespecified non-inferiority margin. Outcomes were consistent in subgroups of patients with complicated bacteraemia, right sided endocarditis, and methicillin resistant *Staphylococcus aureus* (MRSA).

Daptomycin raised creatine kinase concentrations to cause in about a quarter of people randomised to receive it. Clinically significant renal dysfunction was more common with standard treatment than with daptomycin. Resistance was found in vitro in about a third of patients whose treatment with daptomycin failed.

A commentary (p 724) calls for caution in interpreting the results and warns of the study limitations: the reporting of effects and adverse events wasn't blinded, fewer patients were recruited than required by the protocol, and definitions of complicated bacteraemia and endocarditis seem suboptimal.

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