



Coventina's Column

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Diabetes remains a major problem in Scotland, and with obesity unlikely to become less prevalent in the near future and the incidence of type 2 diabetes thus remaining high, its complications will continue to cause significant morbidity and mortality. Most doctors and nurses are well aware of the macrovascular complications including coronary heart disease and stroke, and the microvascular ones including eye, renal and nerve disease, but the association between diabetes and cognitive decline is less widely recognised. A study of over a thousand type 2 diabetics by a team from Edinburgh (Diabetes March 2010, Vol 59. Issue 3; pg 710–713) investigated whether raised levels of the inflammatory mediators C-reactive protein (CRP), interleukin-6 (IL-6), and tumor necrosis factor-alpha (TNF-alpha) were associated with cognitive decline. An association was found between higher IL-6 and TNF-alpha levels and poorer cognitive function. After adjusting for various factors including education level, vocabulary, blood sugar control, cardiovascular involvement and duration of diabetes, an association remained with elevated IL-6 levels and worse cognitive ability. Is raised IL-6 a precipitant for reduced cognitive function or a result of it? Perhaps IL-6 levels should be added to glycosylated haemoglobin as a routine test in diabetics, with rigorous attempts to treat causes of raised inflammatory mediators where possible.



Coventina is pleased not to have suffered the indignity of staples after any of her many operations. Now there is increasing evidence that, in orthopaedic surgery, staples are associated with a significantly higher risk of post-operative infection. A meta-analysis of six papers involving 683 orthopaedic wounds was carried out (BMJ 2010; 340: c1199), collating the incidence of superficial wound infection in orthopaedic patients. Of the patients, 332 had had their wounds closed with sutures while 351 had had staples used. There was a three-fold higher incidence of superficial wound infection in the patients in whom staples had been used compared with sutures. In hip surgery, this increased risk of infection of stapled patients compared with sutured ones rose to four-fold. Perhaps unexpectedly given this result, the development of inflammation, discharge or dehiscence were not significantly different in the two groups. The authors point out that of the six studies used in their meta-analysis, only one was free of obvious flaws in methodology. Still, this meta-analysis raises concerns about the use of staples in orthopaedic surgery, particularly on the hip.



Most British women of a certain vintage (as well as those who have had breast lumps investigated) will be familiar with the torturous procedure that is screening breast mammography, but will have gritted their teeth in the belief that it is of proven benefit. They may therefore be confused to hear the results of a study from Denmark which throws doubt on the benefits of screening in this way (BMJ 2010; 340: c1241). The study sought to investigate whether the 25% reduction in breast cancer mortality seen in Copenhagen since the introduction of mammographic screening was truly the result of screening or due to other factors. The study found that although the mortality from breast cancer among women of screening age had decreased by 1% a year in the ten years of screening in the area where screening had been introduced, mortality from the disease had

decreased by 2% a year in the area where screening had not been implemented. In women too young for screening, mortality had dropped by 5% and 6% in the two areas respectively. These results suggest that it was not the screening that reduced mortality rates from breast cancer but modification of risk factors. Considering that X-ray investigations are not without potential harm themselves it would seem that more studies are required to evaluate the true benefits of screening mammography.



Coventina sympathised with striking firefighters a few years ago more than she did recently with Unite BA cabin crew. Apart from the obvious dangers of burns or loss of life involved in rescuing people from fires, chronic smoke inhalation has deleterious effects on the lungs. A recent investigation (New England Journal of Medicine. Volume 362 (14), April 2010, p 1263–1272) looked at lung function in 12,781 (91%) of the workers from the fire department of New York City – firefighters and emergency medical services (EMS) workers - in six years following the 9/11 terrorist attacks on the World Trade Center. The results were sobering; in the first year, FEV1 decreased significantly in all the workers - by a mean of 439 mls in firefighters who had never smoked - and did not recover over the six years of follow-up. The proportion of workers who had never smoked and who had an FEV1 below the lower limit of the normal range increased during the first year from 3% to 18% for firefighters and from 12% to 22% for EMS workers. Exposure to dust from this event therefore caused significant and probably permanent damage to these workers' lungs. Although the scale of this catastrophe was unusual, it may be that chronic exposure to lower levels of building dust may also cause pulmonary dysfunction. Routine annual FEV1 tests for all firefighters and not just those with symptoms may be a cost-effective monitoring tool and is the least we can offer such altruistic people.



Patients in intensive care are known to be at risk of infected central venous pressure (CVP) lines but sometimes the risk of infection from arterial lines is not given as much consideration. A recent study (Critical Care Medicine, 10.1097/Ob013e3181d4502e) assessed the daily risk and risk factors for bacterial colonisation and line infection in both arterial and CVP lines in 3,532 catheters and 27,541 catheter-days. Colonisation rates were not significantly different for arterial and CVP lines (7.9% vs 9.6% respectively). Infection rates were 0.68% in arterial lines and 0.94% in CVP lines, again not showing a significant difference. Independent risk factors for arterial line infection were respiratory failure and femoral insertion, and those for CVP line infection were trauma/absence of septic shock on admission, femoral or jugular insertion, and absence of prophylactic antibiotic administration when the CVP line was inserted. Since the risk of colonisation and infection were not significantly different for arterial lines and CVP lines, the authors recommend similar precautions for use of arterial lines as for that of CVP lines. Coventina would like to see the same stringent aseptic procedures used for inserting arterial lines as are used for CVP ones in theatre patients such as cardiac, instead of the more commonly used clean but non-sterile technique for arterial lines. Having been the proud owner of an almost eight year-old portacath due to her fussiness about asepsis, Coventina thinks you can never be too careful.