Patients' interpretation of and response to symptoms leads to delay in receiving care

A study enrolled 326 patients undergoing acute treatment for a first or second heart attack to assess factors affecting the time they took to seek treatment (https://doi.org/10.1177/1474515119844654), using a validated questionnaire).

Patients waited a median of 3 hours before seeking medical help, and some delayed for more than 24 hours. This study identified two general reactions: a perceived inability to act had a significant impact on patients who waited more than 12 hours, and inaccurate symptom appraisal also affected those who delayed for more than 12 hours. These patients said it took a long time to understand their symptoms, they thought the symptoms would pass or were not serious enough to seek medical care, and they thought it would be difficult to seek medical care.

Shared and distinct genetic risk factors for childhood-onset and adult-onset asthma

Genome-wide and transcriptome-wide studies were performed in individuals with asthma, using data from the UK Biobank, to identify shared and distinct genetic risk loci for childhood-onset and adult-onset asthma (https://doi.org/10.1016/S2213-2600(19)30055-4).

The researchers concluded that genetic risk factors for adult-onset asthma are largely a subset of those for childhood-onset asthma but with overall smaller effects, suggesting a greater role for non-genetic risk factors in adult-onset asthma.

Combined with gene expression and tissue enrichment patterns, they suggest that asthma in children is driven more by dysregulated allergy and epithelial barrier function genes, whereas adult-onset asthma has more lung-centred and environmentally determined causes. Immune-mediated mechanisms drive disease progression in children and adults.

Transoesophageal echocardiography: small but definite risk of major complications and death

A 1-year prospective study looked at the rate and severity of complications associated with perioperative transoesophageal echocardiography in anaesthetised cardiology and cardiac surgical patients (Ramalingam et al, 2019). The total number of examinations in anaesthetised patients was recorded, along with prospective reporting and recording of all major complications.

Dr Nick Fletcher, Consultant Cardiac Anaesthetist, St Georges, London

Of the 22 314 examinations, 17 patients were diagnosed with a major complication which caused either palatal injury or gastro-oesophageal disruption (an incidence of 0.08% or approximately 1:1300 examinations). Seven deaths were reported which were directly attributed to these complications (incidence of 0.03% or approximately 1:3000). These figures are higher than previously reported and suggest a high probability of death following the development of a complication (~40%). Most complications occurred in patients without known risk factors for transoesophageal echocardiography-associated gastro-oesophageal injury.

Dr Nick Fletcher, Consultant Cardiac Anaesthetist from St Georges in London and one of the study authors, said: 'This large national study demonstrates that there is a small but definite risk of major complications and death related to transoesophageal echocardiography use in cardiac surgery, probably as a result of probe insertion and manipulation. The procedure is considered to be necessary for many types of cardiac surgery and is safe in the vast majority of cases.

He added: 'We recommend all clinicians and departments review their procedural guidelines together with the information communicated to patients when the risks and benefits of such examinations are discussed.'

Ramalingam G, Choi S-W, Agarwal S,Kunst G, Gill R, Fletcher SN, Klein AA, on behalf of the Association of Cardiothoracic Anaesthesia and Critical Care. Complications related to peri-operative transoesophageal echocardiography – a one-year prospective national audit by the Association of Cardiothoracic Anaesthesia and Critical Care. Anaesthesia. 2019 June 24. https://doi.org/10.1111/anae.14734

Adequate protein intake associated with lower risk of frailty in older women

Adequate intake of protein (at least 1.1 g/kg of body weight/day) is associated with a reduced risk of frailty and prefrailty in older women, according to a new study (Isanejad et al, 2019).

There is a strong link between frailty and malnutrition, and protein may be the most important nutrient as a result of its effect on muscle health. This study examined associations between protein intake and protein sources with frailty status in older women.

The study involved 440 women aged 65–72 years enrolled in the Osteoporosis Risk Factor and Prevention–Fracture Prevention Study. Their protein intake in g per kg of body weight per day was calculated using a 3-day food record at baseline in 2003–2004. At 3-year follow-up in 2006–2007, frailty phenotype was defined as the presence of three or more, and prefrailty as the presence of one or two, of the Fried criteria (low grip strength, low walking speed, low physical activity, exhaustion, or weight loss of more than 5%).

Getting the recommended amount of dietary protein was associated with a lower risk of frailty and prefrailty in older women, and consumption of animal protein was associated with a lower likelihood of frailty. The recommended protein intake (1.1–1.3 g/kg of body weight per day) for an older person weighing 70 kg corresponds to a minimum intake of 77 g of protein. The authors concluded that higher protein intake with attention given to protein quality from animal sources may be an effective approach to promote healthy aging and prevent frailty.

Isanejad M, Sirola J, Rikkonen T et al. Higher protein intake is associated with a lower likelihood of frailty among older women, Kuopio OSTPRE-Fracture Prevention Study. Eur J Nutr. 2019 May 7. https://doi.org/10.1007/s00394-019-01978-7

Meatal cleaning with chlorhexidine reduces incidence of catheter-associated urinary tract infections

A cross-sectional, open-label, randomized controlled trial compared the efficacy of 0·1% chlorhexidine solution *vs* normal saline for meatal cleaning before urinary catheter insertion in reducing the incidence of catheter-associated asymptomatic bacteriuria and urinary tract infection (Fasugba et al, 2019).

The study included 1642 participants: 697 (42%) in the control phase and 945 (58%) in the intervention period. In the control period, there were 0·45 catheter-associated urinary tract infection cases and 1·00 catheter-associated asymptomatic bacteriuria cases per 100 catheter-days recorded compared with 0·17 catheter-associated urinary tract infection cases and 0·68 catheter-associated asymptomatic bacteriuria cases per 100 catheter-days during the intervention period.

The intervention was associated with a 74% reduction in the incidence of catheter-associated asymptomatic bacteriuria, and a 94% decrease in the incidence of catheter-associated urinary tract infection. There were no reported adverse events.

Professor Brett G Mitchell, Professor of Nursing, Faculty of Arts, Nursing and Theology, Avondale College of Higher Education, Wahroonga, NSW, Australia

Talking about the findings, Professor Brett G Mitchell, Professor of Nursing, Avondale College of Higher Education, Wahroonga, NSW, Australia, stated: 'Strategies to prevent infections occurring in the first place, such as the intervention tested in this study, are imperative. The findings from this study can be easily implemented in hospital, prevent infections in patients and have been shown to be cost-saving for hospitals'.

Fasugba O, Cheng AC, Gregory V et al. Chlorhexidine for meatal cleaning in reducing catheter-associated urinary tract infections: a multicentre stepped-wedge randomised controlled trial. Lancet Infect Dis. 2019 Jun;19(6):611–619. https://doi.org/10.1016/S1473-3099(18)30736-9

Determinants of mortality from acute stroke

A population-based study using person-linked routine hospital and mortality data in England examined trends in stroke mortality rates, event rates and case fatality to explain the extent to which the reduction in stroke mortality rates was influenced by changes in stroke event rates or case fatality (Seminog et al, 2019).

The study included 358 599 (45%) men and 437 270 (55%) women. Between 2001 and 2010 stroke mortality rates decreased by 55%, stroke event rates by 20% and case fatality by 40%. Mortality and case fatality but not event rate declined in all age groups, while the stroke event rate decreased in older people but increased by 2% each year in adults aged 35 to 54 years.

Of the total decline in mortality rates, 71% was attributed to the decline in case fatality and the remainder to the reduction in stroke event rates. The contribution of the two factors varied between age groups. Whereas the reduction in mortality rates in people younger than 55 years was a result of the reduction in case fatality, in the oldest age group (≥85 years) reductions in case fatality and event rates contributed nearly equally.

Declines in case fatality, probably driven by improvements in stroke care, contributed more than declines in event rates to the overall reduction in stroke mortality. Mortality reduction in men and women younger than 55 years of age was solely a result of a decrease in case fatality, whereas stroke event rates increased in those aged 35–54 years. The increase in stroke event rates in young adults is a concern. This suggests that stroke prevention needs to be strengthened to reduce the occurrence of stroke in people younger than 55 years.

Seminog OO, Scarborough P, Wright FL, Rayner M, Goldacre MJ. Determinants of the decline in mortality from acute stroke in England: linked national database study of 795 869 adults. BMJ. 2019 May 22;365:l1778. https://doi.org/10.1136/bmj.l1778

'Weekend effect' unlikely to be a reliable indicator of care quality at weekends

A systematic review of studies investigating the weekend effect on mortality, adverse events, length of hospital stay or patient satisfaction (https://doi.org/10.1136/bmjopen-2018-025764) found that the weekend effect is unlikely to have a single cause, or to be a reliable indicator of care quality at weekends.

Stress during early pregnancy linked to reduced reproductive function in male offspring

Research involving nearly 3000 mothers and their sons has found that men whose mothers were exposed to stressful life events in the first 18 weeks of pregnancy may have reduced sperm counts, fewer sperm that swim well and lower concentrations of testosterone than those whose mothers were not exposed to stressful events (https://doi.org/10.1093/humrep/dez070).

Online tool predicts risks and benefits of joint replacements

An online tool gives patients personalised information about the risks and benefits of having a joint replacement for the first time (https://jointcalc.shef.ac.uk/). The patient decision aid generates an individualised set of results based on factors including how long the implant will last, predicted pain and function levels before and after surgery and associated risks.