Highlights from this issue

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CAPILLARY REFILL TIME AND SERIOUS BACTERIAL INFECTION

The assessment of febrile children is challenging in the acute setting where many children present with fever and the detection and treatment of serious bacterial infection is a key priority. Abnormal capillary refill time is considered to be a warning sign for serious bacterial infection. de Vos-Kerkhof and colleagues report data determining the agreement between peripheral (pCRT) and central (cCRT) capillary refill time and their diagnostic values for detecting serious bacterial infection in children attending the emergency department (n=1193, age 1 month to 16 years). Serious bacterial infection was present in 11.8%—abnormal radiology/positive cultures. Abnormal pCRT (>2s) was observed in 12.8%, and abnormal cCRT in 4.6%. Neither were good predictors for serious bacterial infection; abnormal pCRT OR 1.10 (95% confidence interval 0.65 to 1.84), abnormal cCRT OR 0.43 (95% confidence interval 0.13 to 1.39). The authors conclude that the diagnostic value of pCRT or cCRT for the detection of serious bacterial infection in this cohort was poor. These findings are important and relevant to clinicians. There is an excellent accompanying editorial in which this and other recent data is discussed—Sepis kills: suspect it, recognise it and be prompt with treatment. ***See pages 17 and 2***

RECENT DEVELOPMENTS IN THE DETECTION AND MANAGEMENT OF ACUTE KIDNEY INJURY

Acute kidney injury (AKI) is the abrupt loss of kidney function leading to a decrease in the glomerular filtration rate and impaired control of acid-base, electrolyte and fluid balance. The term has replaced 'acute renal failure' as it emphasises that renal dysfunction encompasses a spectrum of disease severity rather than a single disease entity. AKI is a common problem in children admitted to hospital, particularly intensive care. There are many potential causes and AKI can result in chronic kidney disease (CKD) in a proportion. McCaffrey and colleagues discuss recent developments in detection and management. This includes sections on risk stratification and biomarkers. Serum creatinine is a poor biomarker and other potential biomarkers are discussed. Risk stratification relates to clinical status, fluid balance and urine output and change in serum creatinine, for example doubling of the serum creatinine in the intensive care setting is associated with a significant increase in mortality. The authors discuss the recently mandated electronic alerts (NHS England) for children and adults in whom there are changes in serum creatinine from baseline—AKI 1 is 1.5 times baseline, AKI 2 is 2 times baseline and AKI 3 is 3 times baseline. The alerts, to be successful, require algorithms for management. Evidence to support treatment is limited and is discussed. Prevention of secondary AKI—appropriate fluid management, adequate nutrition, cautious use of nephrotoxic drugs is key. The progression to CKD can be silent and so the authors advocate life long screening of blood pressure and urine in children who have suffered acute kidney injury. ***See page 91***

OUTCOME OF INFANTS BORN EXTREMELY PRETERM

This refers to infants born less than 28 weeks gestation (1 to 2% of all births) and represents the severe end of a spectrum health and developmental adversity. The infants are at significant risk of adverse health, developmental, educational and social outcomes. Outcome date—early and long term—is essential for evaluating and enhancing clinical care, planning long term support and for advancing our understanding of the life course consequences of immaturity at birth. Samantha Johnson and Neil Marlow review the evidence relating to early and long term neurodevelopmental, cognitive, behavioural and educational outcomes focussing on key themes and considering implications for intervention. There are useful sections on survival, outcomes at 2 years, outcomes in childhood and adolescence and outcomes in adulthood. The many implications of being born preterm are covered in detail. The authors emphasise the need for additional support during the school years to facilitate performance, mental health and well being with longer term outcomes being better than once anticipated with most adults living independently with a good self reported quality of life. The challenge for the future is to see whether ongoing improvements in neonatal care translate into better outcomes short, medium and long term. ***See page 97***

ADOLESCENT PERSONALITY DISORDER—ASSESSMENT AND TREATMENT IN ROUTINE CLINICAL CARE

Personality disorders are characterised by long-standing patterns of maladaptive and inflexible affective, cognitive, interpersonal and impulse control difficulties that produce significant impairment and distress. The societal impact is significant. During adolescence clinicians are reluctant to consider the diagnosis. There are several reasons for this – concern that psychiatric nomenclature does not allow the diagnosis of PD in adolescence, certain features of PD are normative and not particularly symptomatic of personality disorder, the symptoms may be better explained by other psychiatric diagnosis, the adolescent personality is still developing and therefore unstable, concern about making the diagnosis because PD is long lasting, treatment resistant and unpopular to treat and it would be stigmatising to label an adolescent with even borderline personality disorder (BPD). In a thought provoking article this month Carla Sharp challenges of each of these beliefs providing a balanced review of the validity of adolescent PD with a specific focus on BPD with recommendations on how routine clinical care can integrate a PD focus. ***See page 103***

PRESCRIBING IN OBESITY

This is an important issue for certain drugs when prescribing should be according to ideal body weight rather than actual body weight. This particularly applies to drugs with a narrow therapeutic window such as aciclovir, aminophylline, atracurium besilate, vecuronium, fentanyl and gentamicin. The question is how widely is this known and do clinicians know how to calculate ideal body weight. Collier and colleagues report medical staff awareness of this issue and whether, if challenged they would know how to calculate ideal body weight. The results were interesting: four scenarios were given—all obese children—using drugs in which the calculation of ideal body weight was advised. BNF-C was provided to support the decision. None of the respondents calculated the drug doses correctly and in all cases a higher dose than the dose for ideal body weight was prescribed. Knowledge of ideal body weight, its relevance and how to calculate it was poor. This is an important issue, particularly with the increasing prevalence of childhood obesity—it is important to continue to look up medications prescribed regularly even if you are confident about the use and safety profile—the issue is covered in an accompanying editorial—Getting the dose right for obese children. ***See pages 61 and 54***