Highlights from this issue

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UNPLANNED REATTENDANCE RATES

The unplanned reattendance rate is one of the eight new emergency department quality indicators (introduced in 2011 in the UK). This refers to paediatric and adult care, largely based on adult service data, where a reattendance rate of 1–5% is considered acceptable. The challenge is whether this figure is appropriate and achievable in children where additional factors such as rate of change of illness severity and parental anxiety may be relevant. O'Loughlin and colleagues review the reattendance rates (within 7 days) in three paediatric emergency departments by retrospective case notes review comparing the reattendance diagnosis with the initial diagnosis and assessing outcomes including change in disease severity, new diagnosis and reclassification of previous diagnosis/new problem. Interestingly despite the units being of different sizes and in different locations reattendance rates were broadly similar at around 5%. Of interest 18–34% of the children who reattended were admitted and 19–46% reattended with worse disease severity than at initial presentation.

The authors emphasise some reattendance is needed to deal with changes in disease severity/type and factors such as parental anxiety otherwise we would never send anyone home. This topic is ready for further study and this paper helps by providing a reasonably robust benchmark of practice currently. ***See page 211***

MELATONIN AND SLEEP

Sleep problems are endemic in children (and adults) and more common in neurodevelopmental disorders. Paediatricians are often consulted. The aetiology is multifactorial and complex and manifestations varied. The impact on the child and family functioning can be major. There is, in keeping with the multifactorial aetiology, multiple different therapeutic approaches including medication, although clinicians and families have concerns about dependence and toxicity. There is no substitute for a thorough clinical assessment which considers all potential contributing factors. Medication may need to be considered. Appleton and colleagues discuss the use of melatonin, increasingly used and felt to be helpful and effective in selected individuals. The authors present some of the background, evidence base and safety profile referring to recently published evidence and highlighting the importance of melatonin as one of the potential options in children presenting with disordered sleep. ***See page 216***

ACTIVITY, BODY COMPOSITION AND BONE HEALTH

It is well known that reduced physical activity and sedentary behaviour are independent factors associated with childhood obesity. Kennedy and colleagues examine the relationship between daily activity levels, body composition and bone health in 36 children age 6–7 years, born at term, with birth weight <20th centile, ie small for gestational age (increase risk of coronary heart disease, type 2 diabetes). Activity levels were collected using accelerometers and body composition measured by DEXA. Activity levels correlated positively with lean mass although not body mass (similarly sedentary activity correlated with reduced lean mass). Physical activity also correlated positively with bone mass. This is important, particularly in SGA infants, showing that physical activity is associated with increased lean and bone mass although not necessarily conventional measures of obesity such as weight and BMI. ***See page 204***

INCREASING INCIDENCE AND PREVALENCE OF CHRONIC KIDNEY DISEASE IN CHILDHOOD

Chronic kidney disease is one of the most common chronic illnesses in childhood leading to lifelong health care needs including dialysis and transplantation. Kim and colleagues analyse the demographics for a large population looking at incidence, prevalence and aetiology of moderate to severe kidney disease over a 5-year period (pre dialysis and dialysis, GFR<60ml/min/1.73m^2) in a large population with a single specialist renal unit (referral centre for 1.73 million child population). This is a large study of 293 children. Incidence and prevalence increased during the study period (increased referrals, increased disease prevalence) from 8.4 to 25.2 per million age related population and 70.5–104.7 respectively; 45 were transplanted, 22 transitioned and 7 died. Aetiologies were as reported in previous series; Renal dysplasia ± reflux 44%, obstructive uropathies 15%, glomerular disease 17%. The authors discuss the increasing incidence and prevalence speculating on causation and emphasising the implications for resource allocation/planning of services in the future. ***See page 189***

CHILDHOOD EPILEPSY RECORDED IN PRIMARY CARE

There have been reports of a decline in the incidence of epilepsy during childhood. Hadler and colleagues examine temporal trends in the incidence of epilepsy recorded in primary care using data from the Health Improvement Network (UK). This shows a fall with the cumulative incidence 33% lower in children born in 2003–2005 than 1994–1996 and a reduction in annual incidence by 4% per annum between 2001 and 2008 based on anti-epileptic drug prescribing. The reduction increased further to 47% and 9% after adjusting for age, gender and deprivation and using a more sensitive indicator for the diagnosis of epilepsy – prescriptions plus coded diagnosis plus symptoms. This fall in incidence has many potential causes but must include, at least in part, more specific diagnostic criteria and reflect the role of NICE and other guidance regarding the diagnosis and differential diagnosis of epilepsy. These issues are discussed in the paper and accompanying editorial. ***See pages 195 and 167***

IN *F&N* THIS MONTH

There are excellent reviews on the evidence for non-invasive ventilation in the preterm infant and milk osmolality: does it matter? Both are comprehensive, focused and relevant to clinical practice. In addition the difficult issue of outcome after prenatal diagnosis of trisomy 18 is addressed. Trisomy 18 is the most common autosomal trisomy after Down syndrome and associated with a high perinatal and infant death rate. Following prenatal diagnosis a minority of parents will elect to continue with the pregnancy. Burke *et al* report the outcome of 23 such pregnancies diagnosed at a single centre. The fetal death rate was 61%, higher in those diagnosed earlier. All of the 9 infants live born (4 preterm) died by 48 h. This is important information to help counsel families faced with this devastating prenatal diagnosis.