Hypoglycaemia and hypothermia due to nimesulide overdose

Editor—Although toxicity due to chronic administration of nimesulide has been reported,1 to the best of our knowledge there is no report about poisoning due to a single ingestion. We report a 20 month old boy who accidentally took a high dose of nimesulide; 40 mg/kg, 8 times the recommended daily dose.

Physical examination was unremarkable. Laboratory findings, including hepatic and renal function, were normal, except for low to borderline glucose concentration (3.27 mmol/l) and mild acidosis (pH 7.35, bicarbonate 16.9 mmol/l). Gastric lavage with activated charcoal was performed. One third saline in 5% glucose (1500 ml/m²/day) and ranitidine were started intravenously, and he was admitted to our intensive care unit. After eight hours, serum glucose concentration was 3.44 mmol/l, venous pH 7.28 and bicarbonate 18.5 mmol/l. His systolic blood pressure and body temperature fell to 60 mm Hg and 35.0°C (axillary), respectively. The patient was rewarmed and the intravenous infusion rate increased to 2000 ml/m²/day.

Intravenous access was difficult, and to ease management of status epilepticus a Port-A-Cath was inserted at the age of 16 months in infants place everything in their mouth, and pica occurs in a variety of syndromes—is more common in tropical countries where cultural and dietary factors play a role, it may not be a surprising finding. However geophagia (soil), pagophagia (icx), and trichophagia (hair) are the most common substances eaten. We cannot explain the pre-dilection for sponge amongst our patients.

Infants place everything in their mouth, and pica occurs in a variety of syndromes associated with brain damage and developmental delay. It is also more common in deprived and neglected children. Neurological complications are not uncommon in sickle cell disease (SCD) but none of our children had cognitive impairment or reference to Port-A-Cath usage in neurological disease. In this study of 81 children, one child had the device inserted for home administration of medication. This was removed after a portal infection 3 months after insertion.

The benefits to a Port-A-Cath include rapid reliable venous access, low maintenance, fewer restrictions on lifestyle, low incidence of infection and malfunction, when compared with externalised systems. These benefits are attractive for children with a refractory seizure disorder and their families. Rapid venous access is invaluable to the physician when managing status epilepticus.

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LOG on to our website (www.archdischild.com), find the paper that interests you, click on “full text” and send your response by email by clicking on “submit a letter” on our homepage.

The editors will decide, as before, whether to also publish it in a future paper issue.

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Port-A-Cath use in refractory seizure disorders

Editor,—The use of a totally implantable venous access system (Port-A-Cath) in chil- dren has become widespread in the last 15 years. We report a series of three children for whom the Port-A-Cath improved manage- ment of their refractory seizures.

Two patients both females with a diagnosis of severe myoclonic epilepsy of infancy and recurrent status epilepticus presented in the first year of life. Both had seizures, which were intractable to multiple anticonvulsants and became refractory to benzodiazepines. Intravenous access was difficult, and to ease management of status epilepticus a Port-A-Cath was inserted at the age of 16 months in the first child and 13 months in the second. The third patient presented at 4 years with Lennox-Gastaut syndrome. Hospitalisation every 2–3 weeks became necessary for management of clusters of generalised tonic clonic seizures with intravenous medications. As seizure became resistant to multiple anti- convulsant therapies, intravenous immuno- globulin therapy once every 2 weeks was started with some success. Again venous access was difficult and a Port-A-Cath was implanted at 4½ years.

The first patient developed a candida albi- cans infection 9 months after insertion. Amphotericin B was given for 14 days and the Port-A-Cath removed. A second device was inserted after the infection was treated and remains in place 6 years later with no further complications. The second patient had her Port-A-Cath removed after 6 years and 5 months when the catheter blocked. A second device has just been inserted. The third patient had no complications nine months after insertion.

Port-A-Cath devices are widely used in the management of children requiring venous access for longer than 3 months, when peripheral access is difficult and for administration of medications or blood products.1,2 Children who typically benefit have haemodilution, cystic fibrosis, or, malignancies. To our knowledge, there have been none previous

with hypoglycaemia, it may cause hypogly- caemia in high dosage.

We advise frequent monitoring of vital signs and being alert for hypoglycaemia and acidosis in managing acute nimesulide overdose.

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Pica in sickle cell disease: “She ate the headboard”

Editor,—Within our sickle cell population, there are a small number of school aged children who eat sponge. Knowing that pica—the compulsive ingestion of non-nutritive substances—is more common in tropical countries where cultural and dietary factors play a role, it may not be a surprising finding. However geophagia (soil), pagophagia (ice), and trichophagia (hair) are the most common substances eaten. We cannot explain the predilection for sponge amongst our patients.

Infants place everything in their mouth, and pica occurs in a variety of syndromes associated with brain damage and developmental delay. It is also more common in deprived and neglected children. Neurological complications are not uncommon in sickle cell disease (SCD) but none of our children had cognitive impairment or reference to Port-A-Cath usage in neurological disease.3 In this study of 81 children, one child had the device inserted for home administration of medication. This was removed after a portal infection 3 months after insertion.

The benefits to a Port-A-Cath include rapid reliable venous access, low maintenance, fewer restrictions on lifestyle, low incidence of infection and malfunction, when compared with externalised systems.4 These benefits are attractive for children with a refractory seizure disorder and their families. Rapid venous access is invaluable to the physician when managing status epilepticus.

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it can be familial suggesting a learnt behaviour, or developmental and emotional issues may be involved. In America it is classified as an eating disorder, in the UK it is considered a behavioural disorder; it can also be an obsessive-compulsive disorder, or a manifestation of depression.

Our children could shed no light on their behaviour so unacceptable that they requested psychological intervention and in four, the behaviour has now stopped. Thus whilst we find this behaviour fascinating, we are no clearer in understanding the aetiology of pica for sponge in this small population of children with SCD.

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Maternal nutrition and pregnancy outcome

Editor,—Symonds et al raise interesting issues about the potential use of animal models in examining the impact of nutrition during pregnancy on future risk of adult disease.1 However, their discussion of recent epidemiological research in humans includes several important factual inaccuracies. The authors imply that our analyses and those of Godfrey et al grouped women into categories of energy intake, and suggest that different results might have been obtained had “all the raw data points [been used] to determine potential relations between maternal nutrition and birth weight”. Yet as clearly indicated in both papers,1,2 this is precisely the analysis that was conducted. For information, figure 1 shows the relationships of maternal energy intake to birth weight in our study. In each panel, the cut points used in tables to illustrate the relationships between energy intake and birth weight were neither “unclear” nor “arbitrary” but were, as stated, tertiles. Symonds et al draw attention to the “striking difference” in energy intake between our study and that of Godfrey et al whilst suggesting that we should combine our data in a meta-analysis. We argue that the differences are not particularly striking given the different methodologies used for dietary assessment. It would not be appropriate to combine in a meta-analysis data collected in contrasting ways from women at different stages of pregnancy. In any case, our study individually has sufficient statistical power to detect clinically important effects.

In addition, animal experiments above observational epidemiology in humans, Symonds et al confuse two separate issues. First, there is the biologically interesting question of whether maternal diet can influence the outcome of pregnancy. This has already been demonstrated in animals. Second, there is the question of whether maternal diet does influence the outcome of human pregnancy. This question is of clinical and public health importance. It cannot be answered by animal experiments (unless one were to make the dubious argument that the errors associated with extrapolating data from animal models to humans are less than those from using self reported data on human dietary intake). We do not argue that maternal energy intake can never be associated with birth weight. Under extreme circumstances, such as those in the animal experiments cited by Symonds, or in Third World countries, this may be. However, this is no basis for suggesting it has any importance to populations in industrialised countries.

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NITROUS OXIDE AND VITAMIN B12

Editor,—The paper by Kanagasundaram et al on the use of nitrous oxide to alleviate pain and anxiety during painful procedures fails to mention the effect of this gas on cobalamin metabolism. Nitrous oxide inactivates cob(II)alamin, the active derivative of vitamin B12, and essential cofactor for the transfer of the methyl group from methyltetrahydrofolate to homocysteine to form methionine. For subjects with good body stores of cobalamin this effect is unimportant, but no-one using this agent should remain unaware of the potentially devastating complications in the nervous system of using nitrous oxide in subjects who are of borderline or deficient vitamin B12 status. Onset of subacute combined degeneration affecting the brain and spinal cord is a well documented event when individuals with low body stores of cobalamin are exposed to nitrous oxide.

There is a long list of situations which put children at substantial risk of cobalamin deficiency—for example, diets low in animal products, synthetic feeding of any description, small bowel malabsorption, any prolonged illness with disturbance of feeding behaviour, especially if combined with increased metabolic demands—for example, systemic malignancy or chemotherapy. Children with chronic conditions often need painful procedures, and depleted cobalamin stores may not be apparent unless measurements of serum B12 are made routinely. What is more, repeated use of nitrous oxide depletes the body stores of cobalamin even in well people.

Given the scale of use which would result from routine use of nitrous oxide in children undergoing painful procedures, there should be real concern about the potential for an accident in a child with occult cobalamin deficiency. The message must be: never forget vitamin B12 when thinking of using nitrous oxide.

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The outcome of specialist registrars in the southwest region

Editor,—The UK national directive is to increase consultant paediatric numbers substantially over the next 5–10 years which requires the delivery of suitably trained doctors. Higher specialist training in paediatrics requires five years and three months and the current number of trainees will produce more consultants than there are posts, so trainee numbers will still have to be reduced. The southwest regional training committee has expressed concern that trainees are not completing training within five years for a variety of reasons. We therefore reviewed the training times and outcome of the 90 specialist registrars (SpRs) who have trained in our region since the introduction of the Calman training scheme.

The impact of the high proportion of women entering paediatrics needs to be addressed. Our review confirms that 29% of trainees are training flexibly, which will increase their training time for anything up to 10 years. All these are in the flexible training scheme that requires at least one session per week. In regions where trainees have access to the retainer scheme and train for only two sessions per week, training times will be even further extended. Also our training committee is concerned that five SpRs have resigned before completing training. Four of these are women who resigned because, despite working part time, they felt that the career process was incompatible with family life.

Of the trainees who trained flexibly and who have obtained consultant posts, four have chosen to work as part time consultants. The other two would have done so had the opportunity been available. Female trainees will be less likely to train for a flexible training programme based on current calculations than their male colleagues.

We have expressed concern that 47% of trainees are having their Certificate of Completion of Specialist Training (CCST) date reviewed; the average time for them to complete a five year CCST programme based on current calculations is 6.3 years. Reasons include sickness.

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maternity leave, time out to undertake essential training in specialties other than paediatrics (for example, anaesthetics for those training in paediatric intensive care), and flexible training. We do not operate a lenient policy for out of programme experience (OOPEx) or leave of absence. We allow OOPEx only for experience that will count towards training. No more than one year is allowed except for those entering an MD or PhD programme, and only four trainees have taken more than one year for research prior to CCST. Moreover, we insist that training in locum appointment for training (LAT) posts in our own region in core paediatrics does count towards CCST. Therefore, in other regions where more liberal policies are operated, or there are more trainees in research posts, training times may be even longer.

Having obtained their CCST, only half of our trainees have currently obtained consultant posts; 75% of the remainder have sought training elsewhere as post-CCST PhD training, lecturer posts, fellowships abroad, or training in another specialty. Therefore the total average training time is further extended. The remaining 25% are locum consultants awaiting a suitable post becoming available. All are geographically restricted and some are also specialty restricted.

Our review would therefore suggest that there is a considerable discrepancy between the number of national training numbers issued and the numbers of doctors wishing, the number of national training numbers tended. The remaining 25% are locum posts; 75% of the remainder have sought training elsewhere as post-CCST PhD training, lecturer posts, fellowships abroad, or training in another specialty. Therefore the total average training time is further extended. The remaining 25% are locum consultants awaiting a suitable post becoming available. All are geographically restricted and some are also specialty restricted.

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Often, an adrenaline injection device has been prescribed with no demonstration to the child or family on how to give it, nor when to give it. Surely antihistamine should also be prescribed in every case? In most children, it is the only medication, which is going to be used due to unavailability or inappropriate use of available care, which is not restricted to the structured training of school staff. The child and their family should always have received a written management protocol, including instructions on expected symptoms, when to give antihistamines, when to call an ambulance, and when to give adrenaline. A patient with a leaking aortic aneurysm and epinephrine. In addition, epinephrine appears to be more dangerous in the hands of doctors who give it IV than in the hands of allergy clinics. I recommend your readers look at the report on the latest series of food related deaths.

In the absence of any perfect predictive test, allergists are confined to basing risk of future severe reactions on just a few variables. The first is a history of previous severe reactions. The majority of peanut allergies have had a severe reaction in the past and more than 60% have asthma, the second known association with severe reactions. According to current opinion, then, even after just one reaction to peanut most subjects are considered at risk of severe future reactions. Many minor reactors to peanut progress to more severe reactions and are considered to be at risk of a severe allergic reaction. Doctors must remember epinephrine is prescribed to be available for response to infrequent exposure at an uncertain future date, not to be taken four times a day. I have referred to this in the past as analogous to wearing a seatbelt on every car trip, every day, even though a serious car accident is unlikely on any individual day.

Unsworth is not up to date in his comments about the diagnosis of IgE mediated allergy. There are strong data from huge series of challenges, about the negative predictive values of the tests used in allergy clinics. Unsworth does not even mention formal challenges, the cornerstone of modern food allergy practice. A child with allergy would prescribe an epinephrine kit on the basis of a positive SPT in the absence of a significant history or formal challenge.

Children and adults at risk of food related anaphylaxis have enough of life’s pleasures denied them. The provision of epinephrine
kits allows normal life to go on, involving school overnight stays at friends, camping, and other normal activities of childhood. Anecdotally, parents seem to me less stressed when they leave clinic with information (however awful the scenarios described) and risk-benefit ratios than when they arrive. I have never met a parent who reported being more scared of the epinephrine kits than of the prospect of allergen exposure (with or without epinephrine available).

Families must be taught when to use epinephrine and how to use autoinjectors. Until doctors can tell families that anaphylaxis will never happen we should continue to empower families, ensuring they are ready to respond as best they can to the disaster that allergen exposure represents. When anyone develops a real treatment for food related anaphylaxis I can stop prescribing epinephrine kits to people who currently need them.

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Appropriate prescription of epinephrine remains the best available treatment

EDITOR,—Epinephrine kits enable a food allergic child at risk of anaphylaxis to lead a normal life and participate in childhood activities that could easily be denied by a parent terrified of another allergen exposure. Avoidance of allergens rather than rescue epinephrine therapy is the basis of current management of food allergy. However, unexpected exposures are inevitable. Fifty eight per cent of children followed for five years experienced adverse reactions from accidental peanut exposure.1 Peanut is the most common food allergen causing anaphylaxis and pervades the food supply.2 Epinephrine related to foods most commonly occurs in patients who have had previous severe reactions. However, minor initial reaction does not exclude a subsequent severe reaction to peanuts. Any person who has anaphylaxis deserves the best available protection. It is reasonable to always have two Epipens available both at home and at school. A second Epipen provides back up if a faulty technique is used or one syringe is damaged. Anaphylaxis may be biphasic, recurring in 3% of children admitted with anaphylaxis.3

As advocates of children, paediatricians are unlikely to hand out epinephrine syringes without due consideration of the impact on the child and his or her family. A comprehensive plan with written information is essential for any child seen with a food allergy whether or not epinephrine is prescribed. Sicherer et al showed 20% of children did not carry epinephrine outside the home and only 55% had unexpired epinephrine on them. However, successful demonstration was associated with repeat prescriptions, membership of a lay organisation for food allergy, and being reviewed by means of an Epipen training package.4 For schools as such designed by Vickens in Cambridge5 are valuable.

Unsworth states that “Community use should be much more restricted with in increased involvement and reliance on trained medical staff”. Food allergy is the most common cause of anaphylaxis in children outside hospital. Early recognition and use of epinephrine is vital for successful outcome. The median time to respiratory or cardiac arrest was thirty minutes after uncontrolled anaphylaxis in one series.6 Surely this implies that the community is the setting where epinephrine should be given by appropriately trained parents and carers to a food allergic child with signs of anaphylaxis. Parents should be empowered as limited resources prevent medical staff being present immediately. Indeed, epinephrine IV by trained medical staff also appears to be more hazardous than the use of epinephrine by untrained lay people. In the absence of any other treatments for food related anaphylaxis, the considered use of epinephrine kits as part of an integrated management plan is the best choice.

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Editor,—I was pleased to see that my article provoked lively discussion of this important issue. I am not surprised that there are many who are concerned about poor compliance. I agree with Wolff and Runnegy that adrenaline should never be the sole prescription. In addition to antihistamines, prednisolone has a place. The idea of a written management plan is important.

Hourihane contrasted prescription of adrenaline with provision of insulin syringes in diabetes mellitus. We do not restrict provision of insulin syringes in that context because to do so would inevitably promote hyperglycaemia and ill health in all cases, ranging from coma to retinopathy. The risk benefit ratio is clearly in favour of daily insulin use. By contrast, the “very high” number of adrenaline prescriptions is likely to produce a net death in food allergic individuals, does by contrast raise concerns about the risk benefit ratio.

In our clinics, where we see large numbers of both adults and children, reviewing the last few years we have seen one fatal and two near fatal episodes related to adrenaline usage (submitted for publication). Admittedly, all three were in adults. Hourihane describes “epinephrine” to “most (but not all) subjects who have reacted to peanuts”. He would not prescribe epinephrine (a common finding in those presenting with possible nut or food allergy) typically have high background IgE levels and false positives are common.

Dr Abhay reminds us that all primary care medical staff including doctors may administer adrenaline incorrectly. That fact does not justify delegation of responsibility to the general public instigators. They are surely more likely to make errors, despite training and/or management plans. Expecting the public to confidently decide whether to use the adrenaline or not, is expecting a lot. Fatal episodes do indeed tend to occur within minutes of allergen exposure and can evolve to anaphylaxis rapidly, even in cases where previous reactions have been benign. Families may well misjudge and/or err on the side of caution, giving adrenaline early for what was likely to turn out to be another benign reaction. Hence my keenness for restriction of community use and increased reliance on trained medical staff.

I was pleased to see that my article provoked lively discussion of this important issue. I am not surprised that there are many who are concerned about poor compliance. I agree with Wolff and Runnegy that adrenaline should never be the sole prescription. In addition to antihistamines, prednisolone has a place. The idea of a written management plan is important.

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Adrenaline syringes: community perspective

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