LETTERS TO
THE EDITOR

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Hypoglycaemia and hypothermia due to nimesulide overdose

Editor—Although toxicity due to chronic administration of nimesulide has been reported, 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 dosage.

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 acidosisis (pH 7.35, bicarbonate 16.9 mmol/l). Gastric lavage with activated charcoal was performed. One third N 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 (auxiliary), respectively. The patient was rewarmed and the intravenous infusion rate increased to 2000 ml/m²/day. Six hours later, his serum glucose concentration was 4.44 mmol/l, venous pH 7.33, and bicarbonate 16.5 mmol/l. Body temperature and blood pressure rose and 20 hours after admission all vital signs became normal, mild acidosisis resolving within 24 hours. He was discharged after 48 hours. Physical examination and laboratory findings were normal six days after discharge.

The most striking events in our patient were the development of hypotension and hypothermia. Hypothermia has not been reported due to non-steroidal anti-inflammatory drugs overdose, but hypothermia due to the antipyretic action of nimesulide has not been reported. Nimesulide produces a dose dependent anti-pyretic action in rats by inhibiting COX-2, but its effect under normothermic conditions is not known. Although it has been reported that nimesulide might be given to children with hypoglycaemia, it may cause hypoglycaemia in high dosages.

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

E YAPAKCI
O UYSAL
H DEMIRBILIJK
H OLGAR
N NACAR
H OZEN

Department of Pediatrics, Hacettepe University School of Medicine, Hacettepe University, Bisan Dalgarnac
Gosuk Hastanesi, Gastroenteroloji Unitesi, 06100 Ankara, Turkey
e-mail: huazeci@hacettepe.edu.tr


Port-A-Cath use in refractory seizure disorders

Editor,—The use of a totally implantable venous access system (Port-A-Cath) in children 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 midazolam was used, 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 seizures became resistant to multiple anti-convulsant therapies, intravenous immunoglobulin 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 albicans 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 has 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 di- ficult. Natural sponge, or whether the texture of sponge is important—this 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 trypophobia (hair) are the most common substances eaten. We cannot explain the pre- diction for sponge amongst our patients.

Infants place everything in their mouth, and pica occurs in a variety of syndromes associated with brain damage and development- mental delay. It is also more common in deprived and neglected children. Neurologi- cal complications are not uncommon in sickle cell disease (SCD) but none of our children had cognitive impairments.

There is a recognised association between iron deficiency and pica, leading to debate as to which is cause and which effect. Natural sponge contains various proteins and mineral- s, and is often fortified with silica or calcium salts, however, synthetic sponge consists of cellulose alone. We wondered whether a craving of an unidentified salt fuels the eating of sponge, or whether the texture of sponge is simply orally stimulating.

In one study of pregnant women, 33% with pica had a history of childhood pica and 56% had a positive family history. In our children, four had a positive family history. Thus, pica can be a response to a nutritional deficit,

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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 foreign 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 trypophobia (hair) are the most common substances eaten. We cannot explain the pre- diction for sponge amongst our patients.

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Letters

M ROBERTS-HAREWOOD
S C DAVIES
Department of Haematology, Central Middlesex Hospital, London NW10 7NS
marilyn_rae@doctors.org.uk

The outcome of specialist registrars in the southwest region

EDITOR,—The UK national directive is to increase consultant paediatric numbers substan-
tially over the next 5–10 years which requires the delivery of suitably trained doctors. Higher specialist training in paediatrics over five years and there are currently 150 places but 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 special-
ist 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 six weeks per year. 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 longer to train, either because of flexible training and also time out for maternity leave. Moreover, every trainee will not necessarily translate into one whole time equivalent consultant.

In our region 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, anaesthesiology 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, lecturing posts, fellowships abroad, or training in another specialty. Therefore the total average training time is further extended, 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 consult-ant 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, or eligible, to take up consultant posts five years later. These issues need to be taken into consideration in manpower planning and in designing the national service framework for the future.

MARY M McGRAW
Regional advisor in paediatrics and chairman of the southwest regional paediatric training committee

Adrenaline syringes: community perspective

EDITOR.—We read with interest the paper by Unsworth1 regarding the over prescribing of adrenaline syringes. We are sure we are not the only community paediatric team who have similar concerns, although perhaps from a different perspective. Dr Unsworth writes of the safety issues. We have more experience of the practical problems.

Thanks to the availability of prompt training for school staff by community personnel, it is now rare for a child to actually be excluded from school because they have an adrenaline injection device. However, they may very well be excluded from other activities such as guide camp or trips abroad.

There is also the increasing problem of young people with adrenaline injection devices moving on to college or work places. Who should train staff there?

Other problems with adrenaline injection devices in our local community include two being lost on the bus, and one being accidentally fired into the interphalangeal joint of a child’s thumb with the needle becoming bent like a fish hook.

There is also the issue of keeping them in date. Parents often forget to renew them, particularly those kept in school. Whilst it does not need to be kept in a refrigerator, adrenaline does deteriorate in warm conditions, and injection devices should be checked to make sure the adrenaline inside remains clear and colourless.

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 needed. Even if teaching is conducted on how to call an ambulance. They could easily make the mistake of trying to take a deteriorating child to hospital in their own car, instead of calling a paramedic ambulance, or even assume that they do not need to go to hospital at all if they have given adrenaline. As Dr Unsworth points out, the adrenaline injection does not always save the child’s life.

We would suggest that when an adrenaline injection device is prescribed it must be demon-strated to both the parent and child (if the child is old enough). A dummy pen is helpful for this. Demonstration should be repeated with each repeat prescription of the device. The child and their family should always have a written management protocol, including instructions on expected symptoms, when to give anti(histamine) or when to call an ambulance, and when to give adrenaline. Such a protocol can then be passed rapidly to the community paediatric team to support the prompt training of school staff.

It is worth mentioning that clinical responsibility for the safe administration of a drug rests with the prescriber.

T WOLFF
C RUMNEY
Birmingham Specialist Community Trust,
Child and Family Centre, Maas Road
Birmingham B1 2PR, UK
youtu.be/etshhghost4free maxx.co.

1 Unsworth DJ. Adrenaline syringes are vastly over prescribed. Arch Dis Child 2001;84:110–11.

Controversies in paediatrics?

Error,—I was very disappointed to see that the first contribution to the Controversy series was not written by a paediatrician. There are plenty of controversial topics in paediatrics, including the one cited. There are also plenty of paediatricians perfectly qualified to contribute to a formal debate about the topic. The absence of a contrasting viewpoint in the first contribution is not a balanced review of the current state of allergy practice. The BPA and latterly RCPCH have championed for decades the holistic approach to the care of children. Paediatricians are best placed to assess the integrated needs of a child with medical problems. This principle is very relevant to developing areas of specialisation in which there is shortage of expert advice, such as in allergy. Paediatric allergists assess the impact of the diagnosis on many non-medical facets of a child’s life, including family lifestyle, integration into schools and peer groups, and the facilitation of appropriate independence from parental supervision.

It is tiring to have to rehearse the arguments for the adequate protection of subjects at risk of anaphylaxis. Epinephrine (as all doctors should now be calling adrenaline) is the only help given in clinic to families with an allergic child. It is part of the integrated management plan, which appears to be effective though difficult to measure.

It is very hard to prove that epinephrine saves lives and I agree with the notion that “number needed to treat” with epinephrine to prevent a death from anaphylaxis is very high. Unsworth’s title suggests that this “very high number” (my phrase) is too high. How has he measured that? What is too many? He quotes a prevalence of about 1% of American children having peanut allergies and a year later. These issues need to be taken into account. In the absence of a contrasting viewpoint in the first contribution to the Controversy series was not written by a paediatrician.

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It is very hard to prove that epinephrine saves lives and I agree with the notion of modern food allergy practice. No allergist 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 to 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 situation described) and respect for the doctors than when they arrive. I have never met a parent who reported being more scared of the epinephrine kits than of the prospect of allergic 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 best they can to the disaster that allergic exposure represents. When anyone develops a real treatment for food related anaphylaxis I can stop prescribing epinephrine kits to people who currently need them.

J HOUHARNE
Division of Infection, Inflammation and Repair, University of Southampton, Mailpoint 21K, Tremona Road, Southampton SO16 6YD, UK


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 allergic 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 perved as often used in food processing. Anaphylaxis 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 with a history of 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.1

As advocates of children, paediatricians are unlikely to hold out epinephrine syringes without due consideration of the impact 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. Sicheter 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 a consultant. Training packages for schools such as that devised by Vickers in Cambridge1 are valuable.

Unsworth states that “Community use should be much more restricted with 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 in the absence of epinephrine in anaphylaxis in one series.2 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 in allergic patients.3

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.

JABAY
Southampton General Hospital, Tremona Road, Southampton SO16 6YD, UK juneabay@hotmail.com


Reply

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

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 would inevitably mean hypo glycaemia, 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 requested (or perhaps) prevent 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 prescribes “epinephrine to “most (but not all) subjects who have reacted to peanut”. He points out that some patients do not get the prescription. Those with a previous history of only mild reactions can go on to suffer severe life threatening reactions,4 so all patients will surely demand adrenaline. He would not prescribe adrenaline in the absence of a significant clinical history of true nut allergy, (and I applaud that) but others regrettably do, and I know from personal experience that once the mistake is made, it is hard to reverse. I like the seat belt analog, but seat belts have few side effects. Regarding positive and negative predictive values of IgE based allergy blood tests, my point is that often these tests are misleading. Patients with eczema, (a common finding in those presenting with possible nut or food allergy) typically have high background IgE levels and false positives are common.

Dr Abay reminds us that medical staff including doctors may administer adrenalinenequally. That fact does not justify deligation of responsibility to the general public. Those with a previous history of only mild reactions can go on to suffer severe life threatening reactions, so all patients will surely demand adrenaline. He would not prescribe adrenaline in the absence of a significant clinical history of true nut allergy, (and I applaud that) but others regrettably do, and I know from personal experience that once the mistake is made, it is hard to reverse. I like the seat belt analog, but seat belts have few side effects. Regarding positive and negative predictive values of IgE based allergy blood tests, my point is that often these tests are misleading. Patients with eczema, (a common finding in those presenting with possible nut or food allergy) typically have high background IgE levels and false positives are common.

D J UNSWORTH
Southmead Hospital, Bristol, UK
jeannsworth@hotmail.com
