LETTERS

Bloodless treatment of infants with haemolytic disease

It was interesting to read an excellent review in the January 2004 edition of Archive of Hematology devoted to the topic of blood transfusion. At the same time the issues of haemolytic disease in the newborn (HDN) and alternatives to exchange transfusion (ET), were treated as follows: "A recent systematic review has shown that fewer infants require exchange transfusion for haemolytic disease of the newborn when high dose intravenous immunoglobulin is used." Neonatologists generally applaud the efforts made in an attempt to achieve a "bloodless" solution to the treatment of Rh and/or AB0 HDN in a newborn whose parents are Jehovah's Witnesses.

In 1999 we published a case of an AB0 incompatible term infant girl born to parents who were Jehovah's Witnesses. The infant was admitted to our neonatal unit with a high serum bilirubin level necessitating ET. The parents signed a request that blood should not be administered under any circumstances. However, they authorised the use of alternative treatments: orally administered D-penicillamine (DPA) (300 mg/kg per day divided into three doses over three days), phototherapy, intravenous fluids, and recombinant human erythropoietin (200 U/kg subcutaneously on every second day for two weeks). Furthermore, we reported the outcome of this infant, who was discharged from the unit in good health following treatment. Her physical growth and motor milestones at 3 years of age revealed no red flags for neurodevelopmental maturation. In addition, the follow up audiometric tests performed on this infant were normal. To our knowledge, this was the first case of an infant who received such a combined alternative (and "bloodless") treatment for serious AB0 HDN.

As far as the mechanisms of action of DPA in preventing kernicterus in neonates are concerned, it proved to be a potent inhibitor of haem oxygenase (HO), the rate limiting enzyme in haem catabolism to bile pigments, only in neonates. Therefore, this drug can moderate the postnatal formation of plasma bilirubin. The use of DPA in combination with phototherapy seems to be an appropriate combination in diminishing the intensity of hyperbilirubinemia; because DPA decreases bilirubin production simultaneously, by its antioxidant effects, DPA is able to prevent the possible adverse side effects of phototherapy that have been shown in vitro and most recently in vivo.

Another possibility in reducing the need for ET in neonates with proven HDN due to Rh and/or AB0 HDN are concerns, is the use of high dose intravenous immunoglobulin (HDIVIG) as was mentioned by Bolton-Maggis and Murphy. Readers will surely recognise that HDIVIG is a blood product, and is consequently unacceptable to Jehovah's Witnesses families. Not only also that the cost of DPA treatment (about US$2 or €1.5 per patient) is considerably less than HDIVIG.

Although the efficacy of DPA in reducing jaundice was first shown in the 1970s, this drug does not seem to have gained acceptance in the international neonatal community. The lack of "acceptance" of DPA treatment seems sadly parochial to us, because this therapy has been used extensively in Hungary for nearly 30 years. In our own experience, more than 20 000 neonates have been treated without side effects.

The successful use of erythropoietin in the treatment of severe anaemia in a neonate, reported in our paper, should also be of considerable practical interest to your readers.

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References


Ethnic group differences in overweight and obese children with type 1 diabetes mellitus

We read with interest the paper by Saxena et al who report differences in prevalence of overweight and obesity in children of different ethnic groups.

The increased prevalence of overweight in adolescents with type 1 diabetes and among South Asian and Afro-Caribbean children with type 2 diabetes is well recognised. However, little information exists on the differences in obesity between white Caucasian and South Asian children with type 1 diabetes.

We conducted a retrospective analysis of the children with type 1 diabetes in our centre in Leicester, with an estimated proportion of South Asians in the city of Leicester of 28% (Census 2001). Our aim was to study the rates of obesity/overweight in white Caucasian and South Asian groups, and to correlate these with age, duration of diagnosis, daily insulin requirement, and HbA1c. We included children between the ages of 2 and 18 years and who had been diagnosed more than a year ago.

Data were collected for 150 children; 25% (38/150) of our study population were South Asians, with the remainder being white Caucasians. There were similar numbers of females and males represented (74 and 76 respectively).

Overall, 35% (n = 53) of children with type 1 diabetes in our centre were either overweight (>91st centile on BMI charts), or obese (>95th centile), with 18% (n = 27) of the total being obese. This compared to 23% overweight and 6% obese, respectively, in the study by Saxena et al. None of the children under the age of 4 years were overweight/obese. All the other three age groups from our service showed a higher prevalence of obesity compared to the data from Saxena et al (table 1). There was no significant difference in the proportion of overweight (19% v 16%, p = 0.57) or obesity (16% v 20%, p = 0.57 respectively) between girls and boys.

There were no statistically significant differences in the rates of overweight or obesity between white Caucasian and South Asian children at any age grouping. Furthermore, there was no significant difference in the two subgroups in relation to age, duration of diagnosis, daily insulin requirement, and metabolic control (median HbA1c 8.4% v 8.8% respectively).

In conclusion, just as there is a worrying high and increasing level of overweight and obesity in the general population, we have confirmed that this is an even greater problem in children and adolescents with diabetes in both our major ethnic groups. The concerns expressed by Saxena and colleagues are even greater in children with diabetes because of the adverse cardiovascular prognosis for young people with type 1 diabetes.

Table 1

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<tr>
<th>Factors</th>
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<th>Obesity</th>
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<td>Female</td>
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<td>Total group</td>
<td>150</td>
<td>26</td>
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The management of childhood diabetes needs to focus not only on glycaemic control but also on efforts to prevent excessive weight gain and to reduce other cardiovascular risk factors.

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Soy formulas and hypothyroidism

We were interested in a recently published article in Archives of Conrad and colleagues.1 They concluded that infants fed soy formula had a prolonged increase of thyroid stimulating hormone when compared to infants fed by non-soy formula. We have some criticisms of their study methods.

In this retrospective study there was a notable difference between the patient numbers in the soy diet group (n = 8) and non-soy diet group (n = 70). It is well known that in prospective studies in which data of two groups are compared, in order to gain statistically significant results there should be a minimum of 10 test subjects in each group and the numbers in the groups should be close. Although it is not essential to follow this rule in retrospective studies like the one of Conrad et al, the statistical reliance of the study fails since the soy diet group has eight patients whereas the other one has 70.

Secondly, in studies which comparisons of any of body fluid parameters are made for each group, for better results, it is important that the materials must be studied in the same sessions using calibrated machines after the materials have been stored appropriately. This could not be achieved since the study was retrospective, and it is therefore inevitable that there were differences between the thyroid stimulating hormone and thyroxine results of the soy diet and non-soy diet groups. For these two reasons we believe that further prospective controlled studies can better shed light on this topic.

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1 Karadag A, Odemin N, Uras N  
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Reference

1 Conrad SC, Chiu H, Silverman BL  
Splenectomy in cystic fibrosis patients

A recent article, 1 a commentary, 2 and two letters 3-4 in Archives have revealed the overplay of partial splenectomy in portal hypertension in cystic fibrosis (CF). We wish to contribute to the debate with a case report: Our male patient was homozous for the AF508 mutation. He was pancreatic insufficient, his lungs were colonised with Pseudomonas aeruginosa from an early age, and he had two episodes of allergic bronchopulmonary aspergillosis. When he was 8 years old, abdominal ultrasound showed variable echogenicity of the liver compatible with cirrhosis with thick bile in the biliary tree. Treatment with ursodeoxycholic acid was commenced. Recently, massive splenomegaly associated with severe gastro-oesophageal reflux led to an increasingly painful abdomen. Endoscopy confirmed cirrhosis of the liver compatible with cirrhosis of the spleen which may justify the surgical and immunological risks.

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Rib periosteal reaction: did you think about chest physical therapy?

Rib fractures are uncommon in infants. Child abuse must be suspected, especially when location is posterior, as explained by the lever phenomenon. 1 The positive predictive value of rib fractures as an indicator of abuse is 95–100%. 2 Bone fragility diseases, severe cough, and cautious movement may cause rib fractures, and chest physical therapy (CPT) has only been mentioned in a recent retrospective series. 3

From May 2000 to May 2003 we prospectively collected chest radiographs performed as a workup for bronchiolitis, and collected six cases of infants less than 2 years old for

require a fair balance, but also the interests of future generations. No previous generation has been confronted with the importance of this third ethical dimension, as we have. Although current decisions may impact dramatically on the health of future generations, this has not entered into popular medical conscience or current ethical debate. As medical doctors the health of future generations is as much our current ethical debate. As medical doctors the health of future generations is at stake? The third millennium demands a broadened ethical perspective, where established ethical principles are applied, but within the setting of a global community and a vulnerable planet.

Environmental issues are rarely viewed as medically relevant, but can the medical profession allow through the present neglect of the health of future generations is at stake? The third millennium demands a broadened ethical perspective, where established ethical principles are applied, but within the setting of a global community and a vulnerable planet.

In their rebuttal, Thalhammer and colleagues 2 emphasise the risks: infection, compromising future transplantation, while questioning the indications in the cases presented by Thalhammer et al: hypersplenism and discomfort. 1 In their rebuttal, Thalhammer and colleagues emphasise the risks: infection, compromising future transplantation, while questioning the indications in the cases presented by Thalhammer et al: hypersplenism and discomfort.

The debate on the justification for removing all or part of the spleen in patients with portal hypertension hinges on two considerations: indications and risks. In their commentary, Kelly and De Ville de Goyet 3 emphasised the risks: infection, compromising future transplantation, while questioning the indications in the cases presented by Thalhammer et al: hypersplenism and discomfort.

The alarm was raised by his school teacher who noted a large red mark on the back of his neck and shoulder for which apparently he could not give a logical explanation.

On examination he indeed had a geographical area of redness on his skin from the back of his neck down to the right armpit. There were drip marks. I did not get a coherent explanation for the mark from the little boy. I initially interviewed him without his parents being present on Social Services’ request. However, because of the child’s obvious learning difficulties I asked mum to come in towards the end of the interview and went through the history with her. She denied all knowledge of him having sustained an injury in the last few days.

I tried to wash off the skin mark with water and tissue, in front of the mother and the social worker, with no effect.

I therefore told mum and the social worker that I was not sure as to the origin of the mark. It did not have any characteristics of any particular injury nor was it something that could be washed off. I told them that I needed to observe him overnight to see if it evolved into anything (there was a significant amount of pressure from the social worker not to let him go home that night as well).

I documented my thoughts in the notes very clearly and more importantly that I suspected non-accidental injury.

The next morning the entire skin discouloured washed off with soap and a scrub! Mum was extremely upset with the situation and wanted to talk to me. She at that point disclosed that he was drinking a soft drink called ‘Vimto’ which was quite dark red in colour. She was also upset that we had kept him in on suspicion of ‘abuse’. I was able to place her by reading out my documentation that clearly said that I was not sure of the origin of the mark and I could not draw any firm conclusions from it.

This just highlights the sort of pressures that can be brought to bear from various quarters on a consultant paediatrician dealing with child protection medical. It also highlights the need for us to be vigilant about simple things which can give rise to very suspicious looking skin marks. And lastly, perhaps most importantly, it highlights the extreme importance of honest, clear, unequivocal, contemporaneous notes, as this is what stopped this situation from becoming a risk management and complaint issue.

References


Think laterally!

I wish to emphasise the importance of thinking laterally while looking at skin marks in at-risk children in the setting of a child protection medical, especially under the present medicopolitical climate where paediatricians are being blamed for “doing too little” and “doing too much”.

I was asked to see a 6 year old child with learning disabilities for a child protection medical by Social Services. He was under a care order. A suspicion of neglect was raised. He was, however, living unsupervised with his parents.

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whom lateral rib fractures or sequelae were diagnosed. With assistance from clinics, biology, radiology, and follow up, child abuse was ruled out. CPT was the only aetiology retained. It consisted in repetitive anterior cephalocaudal compressions and provoked cough, following French national consensus.  

Twelve of 14 fractures were located on the lateral part of the fourth to seventh ribs, none at the costovertebral junction; physiotherapists hypothesise (unpublished data) that during CPT, maximum pressure is located in the anterior mid-thorax, namely the fifth and sixth ribs, without any lever phenomenon. It is notable that 12/14 lesions consisted of periosteal reactions with no direct signs of fractures; this may relate to the hypothesis that lateral rib fractures or sequelae were retained. It consisted in repetitive anterior compressions and provoked cough, following French national consensus.

To assess diagnosis, radiologists must precisely determine the location of the fractures on the chest and along the rib, and precisely describe radiological features.

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References

The National Health Service in Scotland: origins and ideals, 1900–1950


At the back of an old family album is a photograph of a bewhiskered gentleman posing with his wife on the steps of a grand house with a pillared portico, surrounded by his staff including the chauffeur of the Rolls Royce that was de rigueur at that level of society. He was my great-uncle, a successful practitioner in Burslem, and his financial success contrasted with that of his brother, a Glasgow obstetrician, who lived in considerable but by no means plutocratic style, his earning capacity restricted by time spent with indigent patients in the Duke Street and Royal Maternity Hospitals. This contrast between entrepreneurial and service oriented practice encapsulates the differences between the English and Scottish medical systems in the early part of the twentieth century that are explored in some detail by the author, and which he believes were largely responsible for the relatively easy transition from private to socialised medicine in Scotland.

Scotland of course had the added advantage that the earlier experiment in state provided medicine in the form of the Highlands and Islands Medical Service, and this is discussed in the first chapter of this book. However, the author points out that it had a smaller population and even greater advantage that is now all but forgotten. On the day I was born, 2 July 1936, the Report of the Committee on Scottish Health Services (the Cathcart Report) was published. It attracted little attention outside Scotland. The Times of that day, given to me as a birthday present, carried a half column summary of the report, with no editorial comment—contrasting with the two columns devoted to racing at Newmarket. But this report was seminal in providing a blueprint for the later NHS (Scotland) Act, which was actually written before the England and Wales Act, and which ensured that the Scottish system was quite different to that in England. For instance, in Scotland from the inception of the NHS the teaching hospitals were administered by the Regional Hospital Boards, and were therefore at the centre of service provision, rather than standing aloof under a Board of Governors, a situation that would not be remedied for several decades.

This book is however much more than just a history of Scottish medical service provision; it is a history of the NHS. The author begins by giving a summary of the report and its impact on Scotland, and this is followed by chapters on the financial arrangements, the medical service arrangements, and the administrative arrangements. Each chapter is followed by an evaluation of the legislation and the impact of the report on Scottish health services.

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Finally, readers may well ask why a non-paediatric book has been sent for review to the Archives. The author is in fact Dr Morrice McCrae, formerly of the Royal Hospital for Sick Children in Edinburgh, and well known in paediatric gastroenterology and cystic fibrosis circles. Morrice has been miraculously transformed into a distinguished historian, and his book will appeal not only to those interested in the development of state provided medicine, but to anyone interested in the social, economic, and political history of Scotland.

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