Health effects of organophosphate sheep dips

EDITOR,—We wish to draw attention to the possible health effects of exposure to sheep dips containing organophosphates (diazinon, propetamphos, or chlorfenvinphos). Toxic exposure to organophosphate substances may cause acute cholinergic inhibition¹ that correlates poorly with clinical effects.² Acute clinical effects after exposure to organophosphate dips are uncommon, and because these effects are non-specific, resembling influenza, diagnosis may be difficult.

During the dipping season last year (22 September to 3 November) the National Poisons Unit, in collaboration with the Veterinary Medicines Directorate of the Ministry of Agriculture, Fisheries and Food, investigated cases of suspected exposure reported to the poisons unit by doctors requesting information on management. We obtained details of the cases by telephone and by sending follow up questionnaires to the doctors. If a case was reported within seven days of exposure the doctor was asked to take a blood sample (5 ml EDTA) straight away and another at least one month later. The National Poisons Unit Laboratory measured erythrocyte and plasma cholinesterase activities with an assay based on the method of Ellman *et al.*^{3,4}

Thirty four reports were received. The age of the patients, recorded in 31 cases, ranged from 2 to 75 years. Twenty nine patients were exposed while working with sheep, but three were exposed accidentally, including a 2 year old child who fell into a dip. Circumstances were unknown in two cases.

Influenza-like symptoms, probably associated with organophosphate toxicity, were reported by 23 patients after occupational exposure. Fifteen of them reported that they had not worn protective clothing as recommended by the Health and Safety Executive⁵ and had probably been contaminated while putting sheep into a dip or handling recently dipped sheep.

Paired blood samples were obtained from nine of the occupationally exposed patients with influenza-like symptoms. In three patients a rise in the erythrocyte cholinesterase activity of at least 25% four to six weeks after exposure indicated that cholinesterase activity had been depressed, but in six patients measurements were either equivocal or did not show increased activity (copies of full report available from Mrs J Stear, Veterinary Medicines Directorate, New Haw, Addlestone KT15 3NB).

These findings are a matter of concern. To obtain more information about the scale and severity of the problem and formulate prevention strategies the National Poisons Unit is continuing surveillance between September and December this year in cooperation with the Veterinary Medicines Directorate, the Department of Health, and the Health and Safety Executive; we urge doctors to report suspected cases of exposure to the

unit. This surveillance is separate from the pesticide green card scheme operated by the West Midlands Poisons Information Centre for the Trent and West Midlands regions.

We are grateful to the Veterinary Medicines Directorate of the Ministry of Agriculture, Fisheries and Food, which contributed to the funding of the surveillance, and for information from the directorate's suspected adverse reaction surveillance scheme for veterinary medicines.

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- 1 Ballantyne B, Marrs TC, eds. *Clinical and experimental toxicology of organophosphates and carbamates*. Oxford: Butterworth and Heinemann, 1992.
- 2 Minton NA, Murray VSG. A review of organophosphate poisoning. *Medical Toxicology* 1988;3:350-75.
- 3 Ellman GL, Courtney D, Andres V, Featherstone RM. A new and rapid colorimetric determination of acetylcholinesterase activity. *Biochem Pharmacol* 1961;7:88-95.
- 4 Lewis PJ, Lowing RK, Gompertz D. Automated discrete kinetic method for erythrocyte acetylcholinesterase and plasma cholinesterase. *Clin Chem* 1981;27:926-9.
- 5 Health and Safety Executive. *Sheep dipping: protect your health*. Bootle: Health and Safety Executive, 1991. (Agricultural safety leaflet AS29.)

Outcome of breech delivery at term

EDITOR,—We disagree with J G Thorpe-Beeston and colleagues' conclusion that elective caesarean section is the safest method of delivering babies presenting by the breech at term.¹ There was not a randomised controlled trial, and therefore the three delivery groups (elective caesarean section, emergency caesarean section during labour, and vaginal breech delivery) were not comparable.

Their study showed that vaginal breech delivery was associated with a 20-fold increase in the rate of perinatal loss—this despite the fact that a lower rate of perinatal loss might be expected in the group selected for vaginal breech delivery compared with the group delivered by elective caesarean section since high risk pregnancies would normally be assigned to elective caesarean section. The high rate of perinatal loss found in this study will justify the authors' conclusions only if they can clearly show that the cases for vaginal delivery were both selected and managed optimally. The paper provides no information on either of these two important issues.

Traditional criteria for selecting cases suitable for vaginal breech delivery include: estimated fetal weight (by clinical and ultrasonographic methods) between 2500 and 3500 g; an engaged, extended breech presentation in nulliparous women or a well flexed breech presentation in multiparous women; exclusion of hyperextension of the neck; no evidence of intrauterine growth retardation with normal volume of liquor; absence of placenta praevia; normal clinical and radiological pelvimetry; avoidance of induction or augmentation of labour; satisfactory progress during the first and second stages of labour; avoidance of breech extraction; and maintenance of good head flexion during delivery.

To assess the importance of the eight deaths in

the vaginal delivery group, detailed information must therefore be provided on compliance with these antenatal selection criteria and on the likely causes of death. How many of these deaths were related purely to the mechanism of breech delivery as opposed to factors that may equally apply to labour and vaginal delivery of fetuses with a cephalic presentation?

The policy advocated by Thorpe-Beeston and colleagues was responsible for a fifth of all caesarean sections performed at the Queen Mother's Hospital in 1991 and will increase the likelihood of caesarean sections in subsequent pregnancies. Spontaneous labour with a cephalic presentation is not without risk; the association between meconium staining of the amniotic fluid in labour and increased perinatal loss is well recognised² but in itself does not justify routine caesarean section. Feldman and Freiman advocated routine "prophylactic" caesarean section at term for all mothers in an extreme attempt to remove these fetal risks, but at the cost of an increase in maternal mortality.³

Thorpe-Beeston and colleagues' conclusion must be challenged because, otherwise, the profession would be obliged to deliver all mothers with breech presentation at term by caesarean section on the basis of these inadequate data.

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- 1 Thorpe-Beeston JG, Banfield PJ, Saunders NJStG. Outcome of breech delivery at term. *BMJ* 1992;305:746-7. (26 September.)
- 2 Miller FC, Sacks DZ, Yeh SY, Paul RH, Schiffrin BS, Martin CB, *et al.* Significance of meconium during labour. *Am J Obstet Gynecol* 1975;122:573-9.
- 3 Feldman GB, Freiman JA. Prophylactic caesarean section at term? *N Engl J Med* 1985;312:1264-7.

EDITOR,—J G Thorpe-Beeston and colleagues' paper shows the problems of retrospective analysis of computer data.¹ It is true that no prospective randomised trials of sufficient size exist to answer the difficult question of the best mode of delivery for breech presentation at term, but should we advocate wholesale operative delivery of pregnant women on the basis of this retrospective analysis?

The number of maternal deaths associated with caesarean section in England and Wales has continued to fall,² but, despite this, during the last triennium deaths associated with caesarean section made up a larger proportion of all direct maternal deaths than in previous years. Death associated with operative delivery is now rare; thus we need to look at the morbidity associated with caesarean section to assess outcome and acceptability.

Despite the worldwide increase in the caesarean section rate few studies have attempted to assess morbidity. In a recent prospective assessment of complications associated with caesarean section at King's College Hospital we found appreciable morbidity associated with both elective and emergency procedures (unpublished study). This included major events such as hysterectomy (0.9%), anaesthetic complications (2.3%), admission to the intensive care unit (2.9%), infection (36%), major postpartum haemorrhage (5.4%), wound breakdown, and also ileus, pain, immobility, and other short term problems. In addition, the long term

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