	Did not require manual removal			Did require manual removal		
	Male infants	Female infants	Ratio	Male infants	Female infants	Ratio
1959-1968:						
Gravidity:						
1	8 680	8 160	1.063	301	326	0.923
2	5 758	5 200	1.107	178	208	0.856
3	3 260	3 019	1.080	106	119	0.891
≥4	4 338	4 081	1.063	142	158	0.899
All infants	22 036	20 466	1.077	727	811	0.896
1959-1988:						
All infants	53 692	49 770	1.079	1 462	1 733	0.844

*Information on gravidity not known for 44 boys and 33 girls.

(0.516 to 0.522) respectively; this difference was significant. The relative risk of having a boy for women who required manual removal of the placenta was 0.882 (0.85 to 0.92); thus the proportion of boys born in this group was indeed significantly lower than that in the reference population. Logistic regression showed no significant trend in the proportion of girls born with increasing gravidity in either the reference group ($p>0.5$; $\chi^2=0.00$, $df=1$) or the group who required manual removal of the placenta ($p>0.5$; $\chi^2=0.04$, $df=1$).

Comment

Undue emphasis has been placed on the study of histologically proved cases of placenta accreta, whereas this condition is a clinical entity.³ As manual removal of the placenta is thought to indicate a degree of placenta accreta its use as a surrogate for placenta accreta is justified.

Successful pregnancy is thought to depend on

immunological stimuli provided by antigenic disparity between the fetus and the mother.⁴ Maternofetal interactions may be reflected in the morphological features seen in the placental bed, where infiltration by extravillous trophoblast is inadequate in pre-eclampsia and in spontaneous abortion but excessive in placenta accreta.² As males carry the H-Y antigen, which can act as a minor transplantation antigen, the findings of a decreased sex ratio in placenta accreta in contrast to the increased ratio in pre-eclampsia and in spontaneous abortion seem to militate against the theory of histoincompatibility for successful pregnancy. Other antigen systems, such as the major histocompatibility complex or the trophoblast-lymphocyte cross reactive antigens, may, however, be more important. Alternatively, the differences in sex ratio may reflect influences, such as gonadal hormones or related peptides induced by the sex determining region gene also encoded on the Y chromosome,⁵ on placentation.

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Cardiopulmonary resuscitation skills of preregistration house officers: five years on

F Morris, S G Tordoff, D Wallis, D V Skinner

St Bartholomew's Hospital, London EC1A 7BE

F Morris, FRCSed, senior registrar, department of accident and emergency
S G Tordoff, FCANAES, registrar, department of anaesthesia
D Wallis, SRN, district resuscitation training officer
D V Skinner, FRCS, consultant, department of accident and emergency

Correspondence to: Mr Morris.

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The teaching of cardiopulmonary resuscitation to medical trainees has been inadequate in the past, and two surveys highlighted the inability of junior doctors to carry out effective basic life support.^{1,2} Baskett emphasised the need to review training methods in British medical schools,³ and a report by the Royal College of Physicians in 1987 advocated that district health authorities should appoint resuscitation training officers to organise and coordinate training at both undergraduate and postgraduate levels.⁴ City and Hackney Health Authority has done this since June 1988, and all medical students now receive training in accordance with the guidelines set down by the Resuscitation Council of the United Kingdom.

Five years have elapsed since Skinner *et al* carried out their survey.² We assessed the impact of the recommendations on the theoretical and practical skills of preregistration house officers.

Subjects, methods, and results

We tested 31 preregistration house officers, using similar methods to those used by Skinner *et al*.² Theoretical knowledge was assessed with 10 multiple choice questions dealing with ventilation, cardiac massage, and the management of life threatening

arrhythmias. Practical skills were tested with a standard training manikin (Laerdal) equipped with a visual display indicating the force and site of compression and the adequacy of ventilation. The subjects' ability to carry out resuscitation in the correct sequence and to perform adequate ventilation and external cardiac massage was assessed. They were also required to switch on and connect an oxygen supply and ventilate the manikin with an Ambubag and a pocket mask (Laerdal). Intubation techniques were assessed with the training manikin.

The table summarises the results and compares them with the results of the 1985 survey. Data were analysed with the χ^2 test, and probability values of less than 0.05 were considered to be significant.

Comment

The theoretical knowledge of house officers had improved considerably since the survey five years previously. Certain points such as the recognition of arrhythmia, early defibrillation, and the exclusion of possible underlying causes of electromechanical dissociation have been emphasised in the Resuscitation Council's teaching guidelines, and all candidates answered the relevant questions correctly.

A different picture emerged in the practical part of the survey, with only 15 (48%) of the house officers able to carry out effective ventilation and external cardiac massage. This figure is similar to that of the 1985 survey and disappointing, but we thought that the doctors' basic knowledge of the sequence of resuscitation and the need to call for help and to continue with resuscitation was sound. Resuscitation skills erode with time, and in one series skills had returned to pretraining standards on repeat testing

Topic	Percentage (No) performing to acceptable standard (≥60% in multiple choice paper)		
	1990	1985	p Value
<i>Multiple choice paper</i>			
General topics relating to cardiopulmonary resuscitation (three questions)	73 (23)	73	0.8762
Ventilation (two questions)	48 (15)	23	0.514
Management of ventricular fibrillation (one question)	96 (30)	33	0.0001
Management of asystole (one question)	58 (18)	10	0.0001
Management of electromechanical dissociation (one question)	80 (25)	47	0.0086
Recognition and management of general arrhythmia (two questions)	74 (23)		
<i>Practical examination</i>			
External cardiac massage and mouth to mouth ventilation	48 (15)	55	0.5992
Ventilation with a pocket mask	10 (3)		
Ventilation with Ambubag	29 (9)		
Intubation	22 (7)	34	

after 12 months.⁵ All but one of our doctors had received training in resuscitation during their clinical attachment to the accident and emergency department, but this had been 18-24 months before their graduation. Students are encouraged to attend cardiac arrest calls in the hospital but get little opportunity to practise skills in an emergency. Regular refresher sessions should be held, but how often these should be attended

remains open to debate. We found that the doctors could not ventilate the manikin with either the Ambubag or the pocket mask; this skill seems to have been overlooked in teaching programmes and requires emphasis.

Only seven house officers had adequate skills at intubation. Few could identify and use basic equipment, and few had any concept of the sizes of endotracheal tubes. The Resuscitation Council's guidelines make no recommendations that medical students should be taught techniques of intubation for resuscitation, and although house officers may not be required to intubate a patient in an emergency, they should be able to identify basic equipment as they might have to help a skilled operator.

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Beclomethasone inhalation decreases serum osteocalcin concentrations

Ellen M Pouw, Mark F Prummel, Hans Oosting, Carel M Roos, Erik Endert

Academic Medical Centre,
1105 AZ Amsterdam, The
Netherlands

Ellen M Pouw, MD, registrar,
department of internal
medicine

Mark F Prummel, MD,
internist

Hans Oosting, PHD,
biostatistician

Carel M Roos, MD, chest
physician

Erik Endert, MSC, clinical
chemist

Correspondence to:
Dr M F Prummel,
Department of
Endocrinology, F5-258,
Academic Medical Centre,
Meibergdreef 9, 1105 AZ
Amsterdam, The
Netherlands.

Inhaled corticosteroids have proved efficacious in treating bronchial asthma, and severe systemic side effects seem to be rare, even with high dosages.¹ Because of this combination of efficacy and tolerability the indications for their use are widening and higher dosages are being prescribed.

Despite the lack of adrenal suppression in patients on high dose (1.5-2.0 mg/day) inhalation corticosteroids¹ skin thinning and purpura were found to occur more often in such patients.² A severe complication of long term treatment with oral corticosteroids is osteoporosis, which is mainly caused by depression of bone formation. Serum osteocalcin, which is produced by the osteoblasts, seems to be a protein produced exclusively by bone forming cells,³ and it has been shown that the use of oral corticosteroids results in lowered concentrations of serum osteocalcin.⁴

We aimed to determine the effect of beclomethasone inhalation on osteocalcin concentrations in healthy volunteers.

Subjects, methods, and results

Eight healthy volunteers (three premenopausal women and five men; mean (SD) age 32.6 (8.2) years, range 26-51) were studied; they were not taking any drugs. After supervised training with a placebo device, all subjects used beclomethasone inhalation for two weeks in four doses of 500 µg a day. They were studied before start of treatment (day 1), after one and two weeks of treatment (days 8 and 15), and one and two weeks after stopping (days 22 and 29). Because it has been reported that osteocalcin has a diurnal variation,⁵ blood was drawn hourly from 0900 until 1500 through an indwelling catheter. During treatment (days 8 and 15) beclomethasone was given just after a blood sample had been drawn at 0900 and 1400 hours.

Osteocalcin concentrations were determined by a commercial radioimmunoassay (IncStar, Stillwater, Minnesota); interassay and intra-assay variations were 5.4% and 6.1% respectively. A multivariate analysis for repeated measurements was used to analyse the data, and the within subject covariance matrix was assumed to be of the compound type. The likelihood ratio test was used to test for a treatment effect and for a time effect (for example, diurnal variation) and to find a model consistent with the observed data (figure).

Osteocalcin concentrations during daytime in eight healthy volunteers before (day 1), during (days 8 and 15), and after (days 22 and 29) treatment with inhaled beclomethasone. Arrows indicate timing of inhalation. Curves represent model constructed with likelihood ratio test and show significant diurnal variation on all days ($p=0.041$). Effect of taking inhaled beclomethasone: day 8 v day 1, $p<0.001$; day 15 v day 1, $p<0.001$; day 15 v day 15, $p>0.05$.

On days 8 and 15 a treatment effect was clearly seen: serum osteocalcin concentrations decreased a mean of 0.73 µg/l during inhalation of beclomethasone ($p<0.001$). No additional effect was seen on day 15. On days 22 and 29 osteocalcin values returned to pretreatment levels. In addition, a time effect (diurnal variation) was observed, with troughs around noon ($p=0.041$); this was not affected by beclomethasone inhalation.