Correspondence

Etomidate and injection pain in children

Editor—We read with interest the study by Nyman and colleagues concerning etomidate and injection pain in children. It is well accepted that a single bolus dose of etomidate can result in adrenal suppression in adult patients, not only the critically ill but also in healthy young adults. Single bolus dose etomidate has also been linked with impaired adrenal function in critically ill children, leading to increased mortality. Although we are not aware of a study demonstrating impaired adrenal function in healthy children after a single dose of etomidate, it seems reasonable to assume that the immature adrenal would be at least as sensitive to etomidate, if not more so, than the mature adrenal.

Nyman and colleagues should be commended for attempting to find a solution to i.v. injection pain in children, but it is surely unwise to suggest widespread use of an agent with such a serious side-effect to solve the relatively minor problem of injection pain. We are concerned that increased use of etomidate in healthy children could reveal a clinically significant impairment of adrenocortical function. We suggest further research into a less irritant preparation of propofol would be the safer way to proceed.

P. Slater*
K. Gupta
Northampton, UK
*E-mail: pslater@doctors.org.uk

Editor—We read with interest the comments from Drs Slater and Gupta in regards to our recent publication showing significantly less injection pain by the new lipid formulation of etomidate as compared with propofol with lignocaine. As is evident from our discussion section, we are well aware of the potential of etomidate to cause a transient alteration of adrenocortical function after a single induction injection of etomidate, but there is to our knowledge no evidence to suggest that this limited action on the adrenal cortex can cause any harm to otherwise healthy children. Although no data are currently available, we believe that it is reasonable to assume that a similar suppression of adrenocortical function will result from the widespread use of quite high-doses of dexamethasone for PONV prophylaxis, a practice that most anaesthetists regard as perfectly safe.

We now routinely use etomidate for anaesthesia induction in healthy paediatric outpatients (ASA I–II) but will not use it for total i.v. anaesthesia, prolonged sedation, frequent anaesthesia (e.g. burn dressing changes) or use in ASA III–IV patients due to the potential problem of more prolonged/pronounced adrenocortical suppression. Thus, we do not recommend uncritical use of etomidate in all paediatric patients that will have an i.v. induction of anaesthesia.

Finally, one can choose to look at this complex problem as follows: prolonged infusions of propofol in children can cause the life-threatening propofol infusion syndrome and prolonged infusions of etomidate can cause life-threatening adrenocortical suppression. However, there is currently no evidence that a single induction dose of either propofol or etomidate will cause any harm to otherwise healthy children. Thus, if one of the drugs causes significant injection pain and the other does not, why should we use the drug that hurts?

Y. Nyman*
P.A. Lönnqvist
Stockholm, Swedan
*E-mail: yvonne.nyman@karolinska.se

Predicting fluid responsiveness in theatre

Editor—I read with interest the article by Solus-Biguenet and colleagues which demonstrated clearly the ability of dynamic tests of the circulation to predict fluid responsiveness intraoperatively. They are the first group to do so with a non-invasive dynamic test, namely respiratory variations in non-invasive pulse pressure but they have not discussed the value of systolic pressure variation (SPV) with respiration and I think this is an omission.