Regional Anaesthesia


Correspondence

Anaesthesia for Caesarean Section

Sir,—The article “Propanidid versus thiopentone for induction of general anaesthesia in elective Caesarean section” (Brit. J. Anaesth. (1971), 43, 609) was of interest to us, as in 1965 we decided to discontinue the use of thiopentone for induction due to our high incidence of foetal depression. One per cent methohexitone (Brietal) was chosen as the new inducing agent. In a series of 37 consecutive elective Caesarean section cases the babies showed an Apgar score at 1 minute of less than 7 in 12 cases (32 per cent). The induction-delivery (ID) interval in these cases was greater than 10 minutes and these results fall in line with the figures given by Baraka and colleagues for thiopentone where the ID interval was greater than 10 minutes.

We decided, in 1968, to compare another consecutive series of elective Caesarean sections but this time to aim at an ID interval of less than 10 minutes; 27 cases were treated. The ID interval ranged from 3 to 11 minutes with an average of 6 minutes. Two babies of the 27 showed an Apgar score under 7 at 1 minute (7 per cent) which again compares with Baraka and colleagues both for propanidid and for thiopentone where the ID interval is less than 10 minutes and is statistically significantly different from our first series ($X^2 = 4.65$).

The importance of time in Caesarean section was investigated by Lumley, Walker and Marum (1970) from Melbourne who showed that foetal asphyxia developed progressively, and Apgar scores were lower, as the duration of anaesthesia was extended. Teramo (1968) was the first to demonstrate progressive foetal acidosis during anaesthesia.

It is to be hoped that the findings of Baraka and colleagues, though they show no statistically significant difference between the under-10-minute and over-10-minute groups in the propanidid series, do not give the impression that, in Caesarean section operations, the prolongation of the ID interval is of no significance. It will be interesting to see what the results are in a larger series of cases.

The question arises whether propanidid can cancel out the time element which in itself may cause the complicated factors affecting foetal depression, many of which are unrelated to the induction agent.

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References


Sir,—Thank you for allowing me the opportunity of replying to the letter by Dr Williams and his colleagues.

There are many factors, including the time element, which can produce foetal depression during Caesarean section under general anaesthesia. Thiopentone undergoes metabolic degradation very slowly, and thus its use for induction might potentiate such depression. Metabolic biotransformation of methohexitone is only slightly faster than thiopentone (Brand et al., 1963). On the other hand, propanidid being rapidly hydrolyzed, will not add to the depression, but of course will not correct it.

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Reference