Selected Summaries

Caesarean Sans Pediatrician!

[Jacob J, Pfenniger J. Caesarean deliveries: When is a Pediatrician Necessary? Obstet Gynecol 1997; 89: 217-220].

Recommendations from the guidelines for perinatal care suggest that all deliveries require the attendance of personnel capable of resuscitating the newborn. Specific recommendations for caesarean deliveries do not exist. The authors evaluated the need for vigorous resuscitation in certain common caesarean deliveries at term to evaluate the need for pediatrician attendance on behalf of the fetus.

Ceasarean deliveries of 834 singleton term newborns over a period of two years between April 1993 to March 1995 at Providence Alaska Medical Center and Columbia Alaska Regional Hospital were reveiwed for the need of vigorous resuscitation, Apgar scores, anesthesia used and the need for newborn intensive care. Indications for which caesarean sections were performed included repeat, nonprogressive labor, fetal malposition and fetal heart rate abnormality. Singleton 834 term vaginal deliveries without any perinatal risk factors including meconium stained amniotic fluid (MSAF), fetal heart rate abnormalities, assisted extraction, vaginal birth after caesarean delivery, prolonged rupture of membranes, maternal fever, maternal disease, suspected chorioamnionitis or fetal abnormalities were taken as controls.

Apgar scores of $\geq$6 at 1 minute were significantly more frequent in caesareans except the repeat caesarean category. The incidence of needing vigorous resuscitation care in caesareans (repeat 3.0%, non progressive labor 4.8%, fetal malposition 11.2%, fetal heart rate abnormality 17.7%) was significantly higher as compared to the control group (1.7%). Caesarean sections carried out under regional anesthesia for (z) non progressive labor without fetal heart rate abnormality and *(ii)* previous caesarean sections were associated with reduced needs for vigorous resuscitation (1.6% and 2.1%, respectively); that were comparable to the controls.

It was concluded that a pediatrician need not be present in repeat caesareans and caesareans done for progressive labor without fetal heart rate abnormality, when performed under regional anesthesia. Unexpected cases of MSAF are exception to this rule. Above recommendation, if followed, is expected to reduce pediatrician attendance in caesareans by 59%.

Comments

The requirement of pediatrician attendance at all caesarean deliveries is supposed to increase the cost of health care unnecessarily. Few studies have addressed the issue of need for resuscitation or pediatrician's attendance at caesarean deliveries(l-4). However, only one of these studies(4) had a control group. It concluded that repeat caesarean deliveries carried out under regional anesthesia had a similar incidence of need for vigorous resuscitation as compared to low risk vaginal deliveries. The present study confirms these findings.

American Academy of Pediatrics and American College of Obstetricians and Gynecologists in their recommendations on perinatal care *do not* insist on the presence of a pediatrician in all deliveries. However, they strongly recommend the

presence of skilled and trained personnel capable of carrying out neonatal resuscitation in all childbirths(5). This blanket statement holds true for all deliveries whether vaginal or caesarean.

The present study concludes that a pediatrician's attendance is not a must in certain low risk situations but it fails to address the basic issue of presence of personnel trained in resuscitation, whether pediatrician or someone else in these deliveries. The control group also had a 1.7% incidence of need for vigorous resuscitation at birth which was comparable to the study group *(i.e.,* repeat caesareans under regional anesthesia), where the incidence for same was 2.1%.

Presence of trained personnel, whether a pediatrician or otherwise who may be a nurse, paramedical worker or even a trained birth attendant becomes a must at all deliveries especially in India, where it is not always possible to assess the outcome of labor because unbooked cases constitute the majority, fetal monitoring is poor due to over burdened health staff and at times nonfunctioning gadgets. The results of the present study may encourage the practising pediatricians to refuse attendance at such deliveries fearing disruption of their office practice. However, with the background of consumer protection act, obstetrician should be well prepared to face litigations if the resuscitation was required and not provided due to absence of the pediatrician.

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Effect of Long Term Treatment with Antiepileptic Drugs on Serum Lipids

[Sozuer DT, Atakli D, Dogu O, Baybas S, Arpaci B. Serum lipids in epileptic children treated with carbamazepine and valproate. Eur J Pediatr 1997; 156: 565-567].

Serum total cholesterol (TC), high density lipoproteins (HDL-C), low density lipoprotein (LDL-C) and very low density lipoprotein cholesterol, triglyceride, apolipoproteins Al and B levels were studied in 57 healthy children and in 39 children with epilepsy who had been receiving carbamazepine (CBZ) (23 children) for 1.58+1.10 years or valproic acid (VPA) (16 children) for 1.34±1.11 years. All children were on normal diet of 292.46 ± 376.02 KJ/kg per day. None of the epileptic children who had normal neurodevelopment received other medications except anticonvulsants.

In patients receiving CBZ mean TC levels, mean LDL-C level, mean TC/HDL-C ratio and mean LDL-C/HDL-C ratio were significantly higher than controls. None of the mean levels of serum lipids evaluated in patients receiving VPA was significantly different from corresponding mean values of control group. Changes in serum lipids correlated with neither duration of therapy nor plasma antiepileptic levels, age or gender. Based on the results it was concluded that serum lipids status is modified by chronic CBZ therapy but not by VPA treatment. Further prospective studies are needed to determine whether CBZ therapy is a risk factor for atherosclerotic disorders.

Comments

Epidemiological, clinical and experimental investigations have demonstrated that serum lipids and apolipoproteins are intimately related to atherogenesis. It is well known that some antiepileptic drugs, particularly phenytoin, phenobarbitone and carbamazepine (CBZ), which are inducers of liver microsomal enzymes, effect serum lipids and apolipoprotein concentrations. The present study investigated serum lipid status in children receiving long term CBZ and VPA therapy and observed a significantly higher serum lipid levels in epileptic children on CBZ. Similar increase in lipid levels has been demonstrated in previous studies with phenytoin, phenobarbitone and CBZ but not valproic acid(1,2). This can be explained by biotransformation pathway of phenytoin, phenobarbitone and carbamazepine in hepatic cytochrome P 450 microsomes and level of P 450 is in turn increased by anticonvulsants themselves. This enzyme catalyses the transformation of cholesterol into biliary acids(l).

Atherosclerosis probably begins in childhood and progresses with age. Studies have indicated that subjects with high serum HDL-C or Apo A levels have a low risk of atherosclerotic vascular disorders whereas those with high total cholesterol, LDL-C and Apo-B level have increased risk(3). The Expert Panel on Blood cholesterol levels in children and Adolescents of National Cholesterol Education Program (NCEP) suggests the prevention of premature atherosclerosis should start in childhood. Reduction of LDL-C levels may decrease the risk of coronary heart disease(4). Also diet intervention and drugs given to lower serum lipid levels cause regression of atherosclerotic vascular lesions(5).

Long term prospective studies are required to clarify the effects of hepatic enzyme inducing anticonvulsants on lipid metabolism in children and whether dietary modification will decrease the risk

of atherosclerosis in these patients. Despite the need for long term research, the results of studies(l,2) suggest that serum lipid profiles should be carefully monitored in children receiving carbarnszepine, phenobarbital and phenytoin.

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