Letters to Editor

Serum lactate levels and tissue hypoperfusion in complex corrective paediatric cardiac surgeries

Sir,

I read with interest the article titled, "Pulse oximeter accuracy and precision at five different sensor locations in infants and children with cyanotic heart disease", by Das *et al.*,[1] in the November–December issue of the journal. I congratulate the authors on their well-conceived article; however, one point could do with some clarification.

The authors included 50 children posted for various cyanotic congenital heart correction surgeries (including transposition of great arteries, Fallot's tetralogy, etc.) and the observations were primarily done within 3 hours of the postoperative period in which they compared pulse oximeter measurements with arterial oxygen saturation measurements.

Lactate levels above 2 mmol/l were one of their exclusion criteria, and although they have not mentioned the timing of serum lactate measurement anywhere, it can be assumed that those were taken in the immediate postoperative period, i.e. within 3 hours postoperatively. Serum lactate levels were probably taken in order to rule out tissue hypoperfusion which would otherwise interfere with the pulse oximeter findings.

Quite a few number of studies done earlier on serum lactate levels in the initial postoperative period in paediatric cardiac surgery have shown that it takes a considerable time for serum lactate levels to come down any closer to 2 mmol/l.[2,3] With an increase in surgical complexity of the procedure and resultant greater cross-clamp and cardiopulmonary bypass times, the serum lactate levels tend to be very high in the initial postoperative period.[4,5]

A remarkable sample size of 50, with lactate levels below 2 mmol/l in each case in the early postoperative period, is rather difficult to achieve.

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