Circulatory collapse and ROP

SIR, Ng et al. (BJO 1989; 73: 111-4) report an association between circulatory collapse, the development of severe retinopathy of prematurity (ROP) and periventricular leucomalacia (PVL). They suggest that postnatal hypoxic/ischaemic brain and retinal injury may form a common pathway in the pathophysiology of severe ROP and PVL in predisposed infants, though no data on the cause, severity, frequency, or duration of the circulatory collapse are given. This theory is indirectly supported by metabolic data published from our unit. The frequency and duration of episodes of arterial pH falling below 7.2 due to metabolic, respiratory, or mixed acidosis, and also the duration of episodes of both hypoxia (PaO2 <5-5 kPa) and hyperoxia (PaO2 >12 kPa) were shown to be significant variables in the development of ROP.

Tissue hypoxia resulting from vascular insufficiency is a potent cause of metabolic acidosis, with consequent loss of cerebral and choroidal autoregulation and further loss of perfusion pressure, so it can be suggested that descriptions of circulatory collapse and descriptions of acidosis may refer to the same underlying processes. Quantified cotside measurements of cerebral blood flow using near infrared spectroscopy, and continuous blood pressure monitoring are two techniques which may help to elucidate this important association further.

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References


Book review


This is a very helpful book for the beginner in ophthalmology and hence should be of quite wide interest. Medical students are probably its principal target, but opticians might also find the book of interest as well as some general practitioners. It is probably of somewhat limited value to anyone specialising in ophthalmology, but even for this group a read through during the first few days of the residency would certainly not come amiss. Definitely a good book to have in the library.