Abstract:

Sir

The recent paper by Ewer et al\(^1\) and an accompanying editorial\(^2\) in the Lancet raised the question of universal pulse oximetry screening of newborn infants on the postnatal ward prior to discharge. In the Republic of Ireland there are 75,000 births annually, distributed across nineteen maternity units. We surveyed all of these units regarding the use of oxygen saturation screening on the postnatal ward. A total of eight out of the nineteen units currently perform pulse oximetry screening. At the present time in Ireland it is clearly not universally practiced. Consequently one half of all babies with a cardiac condition are discharged from the postnatal ward without a diagnosis. It is estimated that in the UK that up to 100 otherwise healthy infants die each year from undetected congenital heart disease.

It is our aspiration to see a universal pulse oximetry screening programme commence nationally. Antenatal detection rates for congenital heart disease in this country are currently 25%. Clinical exam increases this detection rate to 50%. It is recognised that pulse oximetry further improves our ability to detect congenital heart disease with a sensitivity of 75%. Early detection of congenital heart defects allows prompt treatment of critical and major cardiac lesions. There are accepted investigations and treatments available when infants with such problems are identified, which are likely to be more successful when detected before they cause a clinical deterioration. It is a cost-effective strategy\(^3\). We found that the individual probe required to screen an infant in this country is relatively cheap at a cost of 0.96. Screening with pulse oximetry is also relatively rapid and requires little training of personnel.

It is generally accepted that oxygen saturations of less than 95% in the lower limbs are abnormal. A second potential component of pulse oximetry involves measuring both the upper and lower limb oxygen saturations to determine if there is a greater than 3% difference\(^4\). This is useful in the detection of duct dependent lesions. The high false positive rate in the research of Ewer et al\(^1\) employing this upper to lower limb difference may be unacceptable to the majority of units in Ireland. Most units do not have ready access to echocardiography as the paediatric cardiology service is centralised. This would likely result in increased parental anxiety and delay in discharge. Therefore the authors are in favour of the introduction of a national screening programme using a single pulse oximetry measurement of the lower limbs alone.

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References