



Service Priorities and Programmes
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A safer approach to manage infants undergoing laser treatment for retinopathy of prematurity

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Introduction

Extremely low birth weight (ELBW) infants with retinopathy of prematurity (ROP) at pre-threshold stage require laser treatment to prevent the complication of blindness. The condition can progress very fast that the time allowance from decision for the treatment to performing the procedure is very limited, usually within 2 days. The procedure can be done in operating theatre for better pain control, but at the same time will expose the vulnerable infant to potential complications such as hypothermia and risks associated with transportation. Delay for treatment may happen due to unforeseeable condition, such as availability of operating suite. To have the procedure performed in neonatal intensive care unit (NICU) is another alternative. With this, the infant can be better haemodynamically stabilized before procedure. However, without a standardized approach, evaluation of patient outcomes becomes difficult. Some infants also require prolonged ventilation support after the procedure.

Objectives

To develop a multidisciplinary guideline to standardize the sedation method for laser therapy for ROP, with the aims (1) to ensure the procedure can be done timely without delay; (2) to ensure the infant receives adequate sedation and pain relief during the procedure; (3) to shorten the duration of intubation after procedure.

Methodology

With collaboration among neonatologist, ophthalmologist, clinical pharmacist and neonatal nurses, a sedation guideline was implemented since August 2013. A retrospective review was done to compare patient outcomes before and after the change.

Result

Nine infants received laser treatment from November 2012 to November 2013. Four infants (group A: average birth gestation 23.39 weeks; average birth weight 0.549kg) had the procedure done before August 2013. Five infants (group B: average birth gestation 25.06 weeks; average birth weight 0.646kg) had undergone the procedure after August 2013 using the standardized sedation method. Both groups completed the procedure in NICU timely and successfully. All of them were intubated for the procedure. Group B had a significant shorter duration of intubation as compared with group A (42.81hours vs 90 hours). Our experiences assure that laser treatment for ROP can be performed safely and timely in NICU setting. Risk of hypothermia and risk of transportation to and from operation theatre can be also eliminated.