Background  Vancomycin is commonly used in neonatal intensive care for suspected or proven Coagulase Negative Staphylococcus [CoNS] sepsis. Achieving the therapeutic level is important but sub-therapeutic levels are common. There is little data to guide dosage adjustment. 

Method  A retrospective audit on vancomycin use was undertaken, using standard 24 hourly dose interval in extreme premature babies [< 29 weeks]. Finding resulted in a change of dose frequency to 18hrly: a prospective audit was then performed.

Result  Of the 27 extreme premature babies on 24 hrly vancomycin, 70% had sub-therapeutic levels; 26% had normal levels. 1 baby [4%] with abnormal renal function had high level.

A subsequent prospective audit of 20 babies [dosed 18 hrly], showed 70% with sub-therapeutic levels, 25% with normal levels; one baby [5%] with abnormal renal function had high level.

The commonest correction for sub-therapeutic levels was to increase the dose by 10%; only 33% of repeat levels were then in normal range. Up to 4 dose increases were required to achieve the therapeutic target.

Conclusion  Increasing vancomycin dosing frequency to 18 hrly produced no increase in the number of therapeutic or sub therapeutic levels, but might theoretically result in longer periods of therapeutic drug levels during the course.

On finding the sub-therapeutic levels, there should be flexibility in approach as 10% increase in dose is often ineffective; perhaps, change in frequency should also be considered. More studies are needed to guide the rapid achievement of therapeutic drug levels.

PREMEDICATION FOR NEONATAL INTUBATION: CURRENT PRACTICE IN THE TERTIARY NEONATAL UNITS IN THE UNITED KINGDOM

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Background  Evidence clearly shows that awake intubation is associated with a significantly higher intracranial pressure, higher blood pressure, and more variable heart rate than premedicated intubation. The last national survey was over 10 years ago. Recently there has been promising research on use of Propofol during neonatal intubation which showed it to be more effective than the morphine, atropine and suxamethonium.

Aims  To establish and up to date census on the current use of premedication drugs to facilitate neonatal intubation in the UK tertiary neonatal units.

Design and methods  Telephone survey included all the 44 tertiary neonatal units in the UK. Professionals were asked about their current practice in use of premedication drugs during neonatal intubation.

Results  44 tertiary neonatal units were contacted and all units use premedication drugs to facilitate intubation. 40 of the 44 units (91%) have written guideline or protocol. 6 premedication drugs are being used in 10 different combinations.

Combination of Fentanyl, Atropine and Suxamethonium is the most commonly used drug regimen used by 16 of 44 units (36%) while 2nd most popular regimen (used by 25%, 11 of 44 units) included combination of Morphine, Atropine and Suxamethonium. Propofol is being used in only one unit.

Conclusion  Use of premedication to facilitate intubation has become standard practice across the tertiary neonatal units in the UK. However practice varies in terms of choice, number and doses of premedication drugs. Six premedication drugs are being used in 10 different combinations/regimens which vary from 1–3 drugs.

USE OF PREMEDICATION DRUGS FOR NEONATAL INTUBATION: IS THIS THE TIME TO THINK OF CHANGING CLINICAL PRACTICE?

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Background  A recent national survey of tertiary neonatal units in the UK showed that six different premedication drugs are being used in ten different combinations. Preparation and administration of three premedication drugs, especially regimen having controlled intubation, may take significantly longer time and may delay intubation.

Aims and objectives:

To study the time taken for preparation and administration of commonest drug regimen (combination of Fentanyl, Atropine and Suxamethonium).

To study its efficacy during neonatal intubation.

Methods  A prospective study in a tertiary neonatal setting in the UK included elective and semi-elective intubations. Neonatal intubations done in the delivery suite and emergency situation, where patient was collapsed, were excluded.

Results  Data was collected from use of premedication drugs during 24 neonatal intubations. Mean time taken to obtain and prepare premedication drugs was 18 minutes (Range: 3–94 minutes) and mean time taken to administer premedication drugs was 3 minutes (Range: 1–10 minutes).

Mean time taken from insertion of laryngoscope in mouth to successful intubation was 5 minutes (Range: 1–24 min) and mean number of attempts were 2 (Range: 1–7 attempts). Only 8% cases needed repeat premedication drugs.

Conclusion  The average time taken for preparation and administration of three premedication drugs was 18 minutes which is significantly longer than expected for emergency situations. Use of single un-controlled premedication like Propofol can be quick and cost effective. Is this time to change our practice or do we need more randomised trials to study the efficacy of Propofol?