

**CONTROL STRATEGIES OF A *KLEBSIELLA PNEUMONIAE* OUTBREAK IN NICU**

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**Background and aim:** We report the strategies employed to contain an outbreak of non -extended-spectrum beta-lactamases producing *Klebsiella pneumoniae*.

**Methods:** Six cases of primary bloodstream infection were identified (July-August 2008). Birth weights ranged from 820 to 2340 g and gestational ages from 26 to 36 weeks. C-reactive protein increased in all cases. 13 infants became colonized. Outcome was favourable in all patients. Numerous strategies were implemented and hand hygiene was emphasized. All neonates were screened in admission and biweekly using rectal, pharyngeal and conjunctival swabs. Infected patients and carriers were isolated. Nursing care was partially cohorted. Intensive education program was organized. Hand cultures from the staff and environmental cultures were collected. All neonates became colonized and the unit was closed to admissions.

**Results:** 33 environmental samples were collected from the unit. One culture of a multiple-dose solution of saccharose was positive for *Klebsiella pneumoniae*. No staff member resulted positive. All of the *Klebsiella* isolated were resistant only to ampicillin and piperacillin. Genomic typing of *Klebsiella* strains isolated were performed by pulsed-field gel electrophoresis. The results were confirmed by arbitrary primed polymerase chain reaction and random amplification of polymorphic DNA. Genotyping disclosed that the outbreak was polyclonal: 8 isolated from infants and the saccharose solution belonged to the same genotype. The other 7 profiles were different.

**Conclusions:** Cohorting of nursing and/or medical care is the most efficient measure in the control of an outbreak. In our case, understaffing and lack of staff reinforcements played a part and ward closure was performed.