

FACTORS RELATING TO DEVELOPMENT OF CATHETER ASSOCIATED SEPSIS : A PROSPECTIVE STUDY

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Background and aim: Insertion of percutaneous central venous lines (PCVLs) is an everyday procedure in the neonatal unit. The presence of PCVL is an important risk factor for catheter-related sepsis. We aimed to study the characteristics of infants with indwelling PCVLs who develop catheter-associated sepsis (CAS).

Design and methods: Prospective study in two tertiary neonatal units of all infants with a PCVL indwelling for >24h. CAS was defined as an unwell baby with an indwelling PCVL who developed clinical signs of sepsis with no other cause for sepsis identified. We examined various factors/ characteristics to see which were associated with likelihood of development of CAS.

Results: 189 PCVLs were studied over a 14-month period. 47 neonates were clinically-septic at the time of line removal. Babies with clinically-suspected sepsis were significantly lower in gestational age and birth weight compared to well babies ($p < 0.01$). Comparatively, PCVLs were inserted at an earlier postnatal age in well babies than in those with suspected sepsis ($p < 0.01$). In the suspected sepsis group, a significant proportion of the PCVLs were inserted via the lower limb ($P=0.04$) compared to well babies. Babies with suspected sepsis were significantly more likely to have had a smaller caliber PCVL inserted than well babies (28 gauge vs. 24 gauge, $p=0.002$).

Conclusion: CAS occurs more commonly in babies of smaller gestation and birth weight. Preferential insertion of PCVLs via upper limbs may entail a lower risk of CAS because of the smaller length of in vivo foreign body liable to colonisation.