



This study was done to compare the effectiveness of real-time ultrasound (RTUS) with X-ray in identifying the peripherally inserted central catheter (PICC) line tip” Telang et al (2017).

Abstract:

BACKGROUND & OBJECTIVES: Securing long-term venous access is an essential part of sick newborn care. The malposition of central line tip leads to several complications. There is a need for an easily available bedside investigating tool to diagnose these malpositions. This study was done to compare the effectiveness of real-time ultrasound (RTUS) with X-ray in identifying the peripherally inserted central catheter (PICC) line tip.

METHODS: This pilot observational study was conducted in a level III Neonatal Intensive Care Unit of a tertiary care hospital in India, from June 2012 to June 2013. A total of 33 PICC lines in 31 infants were included in the study. After insertion of PICC line, X-ray and RTUS were done to locate the tip of the PICC line.

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RESULTS: In this study, PICC line tip could be identified by bedside RTUS in 94 per cent of line insertions. Standard X-ray identified the tip in all cases. RTUS has been shown to have good

diagnostic utility in comparison with X-ray with sensitivity and specificity being 96.55 and 100 per cent, respectively. In our study, majority of malpositions were identified and manipulated by RTUS, thus second X-rays were avoided.

INTERPRETATION & CONCLUSIONS: The result of this pilot study shows that RTUS may be a reliable and safe bedside tool for determining the tip of PICC lines. However, studies with large sample size need to be done to confirm these findings.

Reference:

Telang, N., Sharma, D., Pratap, O.T., Kandraju, H. and Murki, S. (2017) Use of real-time ultrasound for locating tip position in neonates undergoing peripherally inserted central catheter insertion: A pilot study. *The Indian Journal of Medical Research*. 145(3), p.373-376.

doi: 10.4103/ijmr.IJMR_1542_14.

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