To investigate the effect of placement of peripherally inserted central catheter (PICC) via the upper versus lower extremity veins in neonates through a Meta analysis” Chen et al (2019).

Abstract:

OBJECTIVE: To investigate the effect of placement of peripherally inserted central catheter (PICC) via the upper versus lower extremity veins in neonates through a Meta analysis.

METHODS: CNKI, Wanfang Data, VIP Data, CBMdisc, PubMed, Web of Knowledge, Embase, Medline, Cochrane Library and Google Scholar were searched for control studies on the effect of PICC placement via the upper versus lower extremity veins in neonates. RevMan 5.3 was used to perform a Meta analysis of the studies which met the inclusion criteria.

RESULTS: A total of 18 studies were included, among which there were 8 randomized controlled trials and 10 cohort studies, with 4 890 subjects in total. Compared with those undergoing PICC placement via the upper extremity veins, the neonates undergoing PICC placement via the lower extremity veins had significantly lower incidence rates of complications (RR=0.83, 95%CI: 0.75-0.92, P<0.05), catheter-related infections (RR=0.77, 95%CI: 0.60-0.99, P<0.05), catheter malposition (RR=0.28, 95%CI: 0.18-0.42, P<0.05), extravasation of the infusate (RR=0.52, 95%CI: 0.40-0.70, P<0.05), and unplanned extubation (RR=0.82, 95%CI: 0.69-0.98, P<0.05). They also had a significantly higher first-attempt success rate of puncture (RR=1.17, 95%CI: 1.05-1.30, P<0.05) and a significantly
shorter PICC indwelling time (MD=-0.93, 95%CI: -1.26-0.60, P<0.05). CONCLUSIONS: The above evidence shows that PICC placement via the lower extremity veins has a better effect than PICC placement via the upper extremity veins in neonates.

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Reference: