Reproducibility of ambulatory blood pressure monitoring in hemodialysis patients

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RESUMEN

Ambulatory blood pressure monitoring (ABPM) has been increasingly used in hemodialysis (HD) practice and research; however, no study has evaluated the reproducibility of ABPM in this population. To address this question, we performed 48-hour interdialytic ABPM on 21 HD patients (mean age, 53 ± 16 years; 7 women) on two different occasions 68 ± 34 days (range, 30 to 154 days) apart. To qualify for the protocol, patients had to be at the same dry weight and on the same vasoactive drug regimen at both monitoring periods. BP was analyzed according to three different methods: isolated pre-HD and post-HD values, average pre-HD and post-HD values for the five HD sessions surrounding each monitoring period, and 48-hour interdialytic ABPM. Reproducibility was determined by analysis of the SD of the differences (SDD) between the two monitoring periods and the coefficient of variation of each method of BP determination. Our results show better reproducibility of ABPM (SDD, 10.6/6.6 mm Hg; coefficient of variation, 7.5%/8.1%) compared with isolated pre-HD BP (SDD, 24.4/11.3 mm Hg; coefficient of variation, 16.7%/14.1%) or post-HD BP (SDD, 16.8/14.5 mm Hg; coefficient of variation, 11.7%/17.8%), and averaged pre-HD BP (SDD, 14.7/7.2 mm Hg; coefficient of variation, 10.1%/9.1%) or post-HD BP (SDD, 12.4/8.7 mm Hg; coefficient of variation, 8.9%/11.1%). The reproducibility of the decrease in BP during sleep was poor, with up to 43% of the subjects changing dipping category within or between interdialytic periods. We conclude that ABPM is the most accurate method to study BP in HD patients over time. However, variability is significant, and there is poor reproducibility of the nocturnal decline in BP

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