INTRADIALITIC BLOOD PRESSURE PATTERNS:ROLE OF PULMONARY HYPERTENSION

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INTRODUCTION AND AIMS: •High and low Blood pressure values are risk factors of poor outcome in general population and in hemodialysis setting . Blood pressure variation in hemodialysis sessions have high frequency and are related to procedure's factors and to patient's disease. Pulmonary hypertension is associated with reduced survival in hemodialysis patients , but its association with variability of intradialitic blood pressure is not yet established . Aim of study : To establish the relationship between pulmonary hypertension and different patterns of intradialytic blood pressure; to determine the influence of blood pressure individual patterns on performance status of patients •

METHODS: Out of seventy patients, thirty prevalent patients fulfilled the inclusion criteria . Sequential measurements of intradialitic blood pressure have been obtained every 15 minutes ; echocardiograms were performed before dialysis session determining the main echocardiographic parameters and pulmonary artery pressure (PAPs and tricuspid regurgitation velocity (TRV) . At same time the most important physical and biochemical variables were recorded . We identified three patterns of blood pressure intradialytic: *continuos pattern of Sistolic (PS)and diastolic (DS) (mean and SD),** Variability pattern of Sistolic (PS)and diastolic (DS)(the variability rate was established from AUC under the line connecting the individual measurements and extrapolating the time where the blood pressure profile intersected with the mean blood pressure reference line ; Integration was used to calculate the areas, approximating with the "trapezoidal rule",yelding positive variability , negative variability and a total variability. ***Sudden pattern (acute blood pressure variation) :average sistolic or diastolic pressure plus/less one standard deviation plus/ less the value of positive or negative variability.Pulmonary hypertension is defined as TRV>2,5m/sec and/or PAPs>35mmHg Statistical analysis:each pattern of intradialitic blood pressure was analyzed by univariate and multivariate models : * Continuos pattern was associated to principles variables by generalized mixed models ;**PS and DS total variabilty was analyzed by linear and logistic regression; Sudden pattern was analyzed by Cox regression models .Each variable entries in multivariate model if P <0,20.

RESULTS: •In our sample, the prevalence of PH is 0,46 . *Continuos pattern:Pulmonary hypertension(PH) is not a risk factor for this pattern;predictive factors for PS and PD continuos pattern are age>78y(P0,04 and P0,003 respectively) and EF<25°percentile(P0,01and 0,04 rispectively).**PH is a predictive factor directly related to PS variability(odds ratio 5,66 IC 0,98-32 P0,05)and indirectly related to PDvariability(P0,02);***Sudden pattern:intradialitic ipotension is indirectly correlated with albumin(hazard ratio 0,04 IC 0,008-0,27 P0,0003) and female sex(hazard ratio 0,23 IC 0,7-0,70 P0,009). ECOG performance status>3 is indirectly correlated with the absence of hypotension (odds 0,05 IC 0,004-0,83 , P0,03)

CONCLUSIONS: •Our study demonstrates that PH is highly prevalent in hemodialysis; it is a risk factor for intradialitic blood pressure variability (variability pattern) but it is not for continuos pattern and for sudden ipotension . The latter is related to suboptimal performance status.

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