SP599 Reduced Vascular Access Trouble Using Body Composition Monitor

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【Introduction】

Dialysis access AVF and AVG are known that the obstruction can be caused a decrease in blood pressure after dialysis later and at home after dialysis.
We will decide the DW of dialysis in reference to cardiothoracic ratio and blood pressure during hemodialysis, and the inferior vena cava vein diameter.
We are using BCM ® as a means to consider the proper removal of excess body fluid.
By using the BCM ®, we can evaluate too removal body fluid by

hemodialysis.

Explanation of BCM®

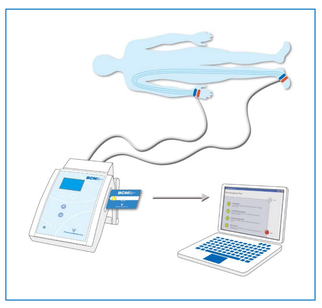
* BCM ® : Body Composition Monitor

BCM® is in Body Composition Analyzer using the principle of electrical resistance.
A new technique of sending a weak electric current into the body using the electrical resistance to measure body fat, muscle mass and water content has been developed.
It works similar to a home body fat analyzer.

Electricity flows through the water in the body and depending on the amount of water conductivity varies.

Hi fat content (less muscle) ⇒ electrical resistance is greater,
Low fat content (lots of muscle) ⇒ electrical resistance is lower.

The differences in electrical resistance values, are used to determine the percentages.



OH: Over Hydration mean an excess of body fluid or a lack of body fluid referred to as +Over Hydration and -Over Hydration respectively.
DW in dialysis to determine the BCM ® is measured at the weekend asked, Oh, decided in a zone in the DW.

【How to determine DW of dialysis patient】

#1 Calculating OH and BCM ® after weekend dialysis as mentioned above.
#2 Measurements of OH, IVC and blood pressure before and after hemodialysis, we can determine DW zone.

【Object】

Duration:2016 from March 2017 February 12 months.
Patient's group are received PTA by VA trouble
Stenosis 329 cases ,Occlusion 81 cases.

【Method】

#1 Correlation of Hb., IVC, Blood Pressure before and after dialysis and OH shown in FIG.1-4.
#2 Correlation coefficient analyzed between group that underwent PTA and group that did not.
#3 Stenosis group and Occlusion group with OH, but prior to PTA were analyzed by t-test.

【Result】

#1 Fig.4: Prior to treatment there was a significant difference in the OH average of the Occlusion group and Stenosis group.
#2 Fig.5: Correlation of OH and IVC during inhalation was not observed in PTA group or Non PTA group.
#3 Fig.6: Low OH usually results in low blood pressure prior to dialysis in the PTA group, however, some cases of high blood pressure were also evidenced leading us to recommend an increase in DW in those cases.
#4 Fig.7: OH and CTR correlation coefficient was not significant between PTA group and Non PTA group.
#5 Fig.8: No correlation was observed between OH and hemoglobin.

【Discussion】

These patient's group were managed by reasonable DW that was no problem in cardiothoracic ratio and blood pressure during hemodialysis. However, on BCM ® check the occlusion cases had been removed of excess water from the proper weight. These patients were not taken into account the proper DW set, for the reason that was causing in low blood pressure and the prethrombotic State dialysis later

【Conclusion】

#1 Managing blood pressure through DW management when OH is low increases the risk of occlusion.
#2 By combining OH, IVC, blood pressure, and CTR data in VA management, you can decrease the risk of vascular access trouble.

Fig.1: Comparison of OH

Duration:2016 from March 2017 February 12 months.

	N	mean	SD	
PTA group (Stenosis)	329	0.07	1.49	※
PTA group (Occlusion)	81	-0.32	1.69	

※P<0.05

Fig.2: Characteristics of PTA

	Stenosis	Occlusion
Variable	(N=329)	(N=81)
Gender (male/female)	189/140	52/29
Age year	67.7(11.2)	65.8(11.3)

Fig.3: Characteristics of PTA and Non PTA group

	PTA group	Non PTA group
Variable	(N=32)	(N=82)
Gender (male/female)	19/13	56/26
Age year	65.7(12.3)	62.7(13.7)
CTR (%)	50.5(4.8)	49.2(5.6)
Hb (g/dl)	11.2(1.4)	11.0(1.0)

Fig.4 OH result of Our Clinic's Dialysis Patients

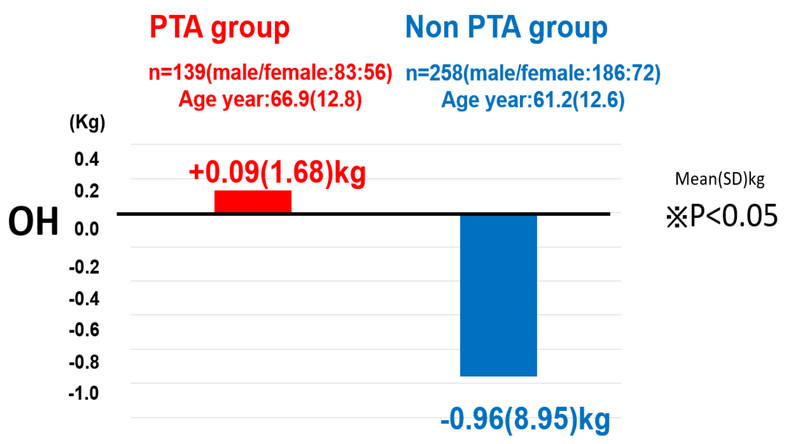


Fig.5 Correlation between OH and IVC with or without PTA

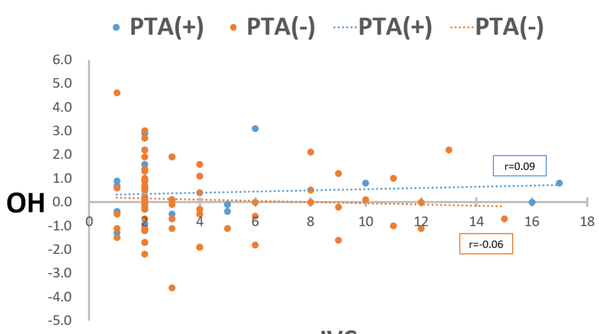


Fig.6 Correlation between OH and BP prior to dialysis with or without PTA

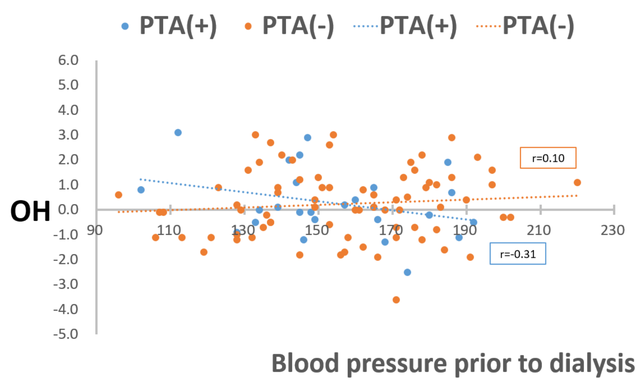


Fig.7 Correlation between OH and CTR with or without PTA

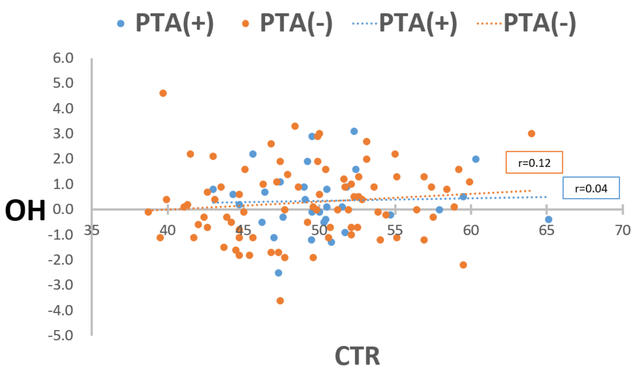


Fig.8 Correlation between OH and Hb. with or without PTA