

Blood Volume Analysis in the Management of Volume Status in Non-traumatic Subarachnoid Hemorrhage

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INTRO

- Intravascular volume is very important in SAH patients, but difficult to measure objectively
- Euvolemia is a key clinical practice guideline for management of nSAH to prevent Delayed Cerebral Ischemia (DCI)
- One emerging non-invasive option is to use radiotracer-tagged albumin to assess blood volume (BVA).

METHODS

- This study used a retrospective analysis of hospitalized nSAH patients who underwent BVA
- Our objective was to quantify if/how BVA changed management during the high-risk periods for DCI.
- Compared patients who received BVA studies to Daily Weights, Intake/Output Fluid Balance, and PiCCO monitoring data when applicable.
- Subsequently Analyzed changes in clinical management after BVA data interpreted.

PATIENT CHARACTERISTICS:

Characteristics	BVA (n=23)	No BVA (n=77)	p values
Female	69%	48%	0.10
Age	54 (28-73)	59(25-91)	0.05
Hunt and Hess	3 (2-3)	2 (2-4)	0.08
Modified Fisher	4 (3-4)	2 (2-4)	0.07

BVA DATA AVERAGES: (% dev. from normal)

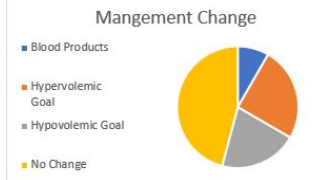
Statistic	Min	Max	Mean
Total Blood Volume	-27%	56%	4.84%
Red Blood Cell Volume	-45%	32%	-18%
Plasma Volume	-17%	70%	21%
Transudative Rate	0	0.39	0.15

Blood Volume Analysis: May determine *Intravascular Blood Volume* and could aid management decisions in *Subarachnoid Hemorrhage Patients*



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RESULTS:



- Of the BVAs completed 54% (13/24) resulted in a change of management after interpretation of the study.
- 8.3% (2/24) Received blood products.
- 25% (6/24) received fluid boluses.
- 20.8% (6/24) were diuresed or had fluid restricted.
- 45% (11/24) had management continued.

CONCLUSIONS

- Nuclear Medicine based Blood Volume analysis may be a useful adjunct to help determine fluid management in the high risk DCI patient in nSAH patients.

DISCLOSURES

- None

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Suggested Management Flowchart

