**Supplemental Digital Content 3**

**Derived data from seven studies comparing two types of hemodynamic monitoring: main characteristics of each study, types of monitoring compared and number of patients divided according to clinical presentations (WFNS grade) and neurological outcome (mRS).**

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| **ARTICLES** | **AUTHORS & YEAR** | **STUDY’S CHARACTERISTICS** | | | | **TYPE OF MONITORING** | | **WFNS**  good grade (I-III) | | **WFNS**  poor grade (IV-V) | | | **mRS**  at 3 months Favorable (0-3) | | | **mRS**  at 3 months Poor (4-6) | |
| TYPOLOGY | AIM | PERIOD | NUMBER OF PATIENTS | CG | IG | CG | IG | CG | IG | CG | | IG | CG | | IG |
| Performance of Bedside Transpulmonary Thermodiluition Monitoring for Goal-Directed Hemodynamic Management after Subarchnoid Hemorrhage | Mutoh et al. 2009 | Randomized clinical trial | Validate the usefulness of goal-directed hemodynamic management using the PiCCO system compared with the conventional fluid management protocol | within 24 h from SAH onset up to day 14 | 100 (50 in CG; 50 in IG) | CVP/Fluid intake (Swan-Ganz placement only if DCI) | PiCCO | 30 | 28 | 20 | 22 | 22 | | 28 | 28 | | 22 |
| Performarnce of Third-generation FloTrac/Vigileo system during hyperdynamic therapy for delayed cerebral ischemia after subarchnoid hemorrhage | Mutoh et al. 2012 | Pilot clinical trial | Investigate the reliability of the refined third - generation FloTrac/Vigileo system during hyperdynamic therapy for reversing DCI compared with TPT | within 24 h from SAH onset up to day 14 | 48 (24 in CG; 24 in IG) | FloTrac/Vigileo | PiCCO | 17 | 15 | 7 | 9 |  | |  |  | |  |
| Blood Volume measurement to guide fluid therapy after aneurysmal subarchnoid hemorrhage | Hoff et al. 2008 | Randomized clinical trial | To assess whether fluid management guided by daily measurements of blood volume results in less hypovolemia after SAH conventional fluid balance guided fluid therapy. | within 72 h from SAH onset up to day 10 | 102 (48 in CG; 54 in IG) | Conventional management | PDD | 35 | 37 | 13 | 17 | 34 | | 37 | 14 | | 17 |
| Pulmonary edema and blood volume after aneurysmal subarachnoid hemorrhage: a prospective observational study. | Hoff et al. 2010 | Prospective observational study (Optica sub-study) | To assess intravascular volume in patients after SAH and compared it between patients in whom PED did o did not develop. | within 72 h from SAH onset up to day 10 | 102 (48 in CG; 54 in IG) | Conventional management | PDD |  |  |  |  |  | |  |  | |  |
| Accuracy and precision of calibrated arterial pulse contour analysis in patients with SAH requiring high-dose vasopressor therapy: a prospective observational clinical trial | Metzelder et al. 2014 | Prospective observational clinical trial | to assess the validity and precision of PCCO-measurements compared to transpulmonary thermodilution derived cardiac output (TPCO) during high-dose vasopressor-therapy. | up to 72h after aneurysm stabilization | 20 | conventional management + arterial line calculating PCCO | PiCCO (TPCO) |  |  |  |  |  | |  |  | |  |
| Early intensive versus minimally invasive approach to postoperative hemodynamic management after SAH. | Mutoh et al. 2014 | Randomized clinical trial | to determine whether EGDT improves outcomes compared with standard  less-invasive hemodynamic therapy | within 24 h from SAH onset up to day 14 | 160 (80 in CG, 80 in IG) | Conventional management | PiCCO | 36 | 34 | 44 | 46 | 44 | | 52 | 36 | | 28 |
| High Early Fluid Input After Aneurysmal Subarachnoid Hemorrhage: Combined Report of Association With Delayed Cerebral Ischemia and Feasibility of Cardiac Output–Guided Fluid Restriction | Vergouw et al. 2017 | Restropective observational study: cohort 1 and cohort 2 | 1) investigate whether high early fluid input or positive fluid balances were associated with DCI 2) to assess changes in fluid input and fluid balances between TPT protocol and normal management | Cohort 1: first 3 days after admission; Cohort 2: from the 3 days before to 3 days after starting TPT | Cohort 1: 223;  Cohort 2: 23 | conventional management (alone in Cohort 1; vs PiCCO in Cohort 2) | PiCCO (only high risk patients) used only in Cohort 2 |  |  |  |  |  | |  |  | |  |

**LEGEND**

IG= intervention group (more advanced monitoring); CG= control group (basal invasive monitoring); TPT= transpulmonary thermodilution; PE= pulmonary edema; DCI= delayed cerebral ischemia; SAH= subarachnoid hemorrhage; WFNS= world federation of neurosurgical societies; EGDT= early goal directed therapy; TPCO= transpulmonary cardiac output; PDD= pulse dye densitometry; PCCI= pulse contour cardiac index; PACI=pulmonary artery cardiac index; APCO= arterial pressure cardiac output; CO= cardiac output; NA= noradrenaline; ELWI=extra lung water index; GEDVI= global end diastolic volume index; LVEF= left ventricular ejection fraction; CVP= central venous pressure; CBV= circulating blood volume; PVPI= pulmonary vascular permeability index; TCM= Takotsubo cardiomyopathy; ICG= indocyanine green; CI= cardiac index; PiCCO= pulse contour continuous cardiac output.