

if untreated, high risk endovascular treatment, poor grade SAH indicated complex post treatment course (vasospasm and death). (2) Patient Autonomy - No capacity to make medical decisions, no advanced statement about extent of care, doctors should make healthcare decisions in her best interest. (3) Quality of Life - High chance of deteriorating to Modified Rankin 5 or 6 (death), best outcome, with or without treatment, would be a return to baseline Modified Rankin 4 - a state to be endured. (4) Contextual issues - Doctors recommended CT angiogram for definitive diagnosis. This strengthened the doctor's position against advocating treatment in view of complex lesion and poor prognosis. **Case Summary:** A 74 year old pre-morbidly poor female (modified Rankin 4 from multiple ischaemic strokes) presented with a poor grade (E2V1M3, Modified WFNS Grade V) subarachnoid haemorrhage. She was admitted to the NICU. Her family refused further investigations or treatment. Her GCS improved to E4VTM5. We used the 4 box approach (described by Jonsen AR et al) to guide decision-making. Her family agreed for a CT angiogram to facilitate this. This revealed a ruptured left vertebral artery aneurysm with tortuous and narrow vessel. Endovascular treatment was deemed difficult and risky. With this information, the family and doctors agreed for conservative management. She was extubated and discharged minimally communicative (E4V1M5) and modified Rankin 5 (fully dependent at all times). **Conclusion:** Four box approach clarified relevant patient medical and ethics issues, thereby guiding doctors in decision to accede to family's wish to withhold questionably beneficial treatment, in patient's best interest.

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Effect of 0.45% sodium chloride and plasmalyte a used during intraoperative and postoperative period on serum osmolality in patients undergoing craniopharyngioma surgery

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Introduction: Electrolyte imbalance and acute diabetes insipidus (DI) are the most common complications in patients undergoing craniopharyngioma surgery. Data is sparse regarding the choice of fluid in patients undergoing craniopharyngioma excision. We compared the effects of iso-osmolar Plasmalyte A and hypo-osmolar 0.45% saline infused perioperatively on peri operative serum osmolality, serum sodium level and incidence of diabetes insipidus. **Methods:** A prospective randomised double blind study was conducted in 27 patients undergoing transcranial excision of craniopharyngioma. The

patients received either plasmalyte A or 0.45% normal saline intraoperatively and in postoperative period till patients were started exclusively on oral fluids. Serum and urine osmolality, serum and urine sodium, urine specific gravity, GCS and total dose of desmopressin required was measured in the peri operative period and postoperatively. **Results:** Demographic data were comparable. A statistically significant difference was found between the two groups in serum osmolality at 2nd hour ($p = 0.03$), 3rd hour ($p = 0.006$) and end of the surgery ($p = 0.034$), postoperative day 0 and 1 with $p = 0.03$, $p = 0.03$ respectively with 0.45% saline group having serum osmolality less than 300 mosm/kg as compared to plasmalyte group. We found intraoperatively, the difference in serum sodium levels was significant higher in patients receiving Plasmalyte A as compared to those receiving 0.45% sodium chloride at 3rd hour ($p = 0.009$) and at the end of surgery ($p = 0.009$) although the values in both the groups were within normal limits. **Conclusion:** Perioperative fluid is an important determinant of serum sodium and serum osmolality in patients undergoing craniopharyngioma surgery. 0.45% sodium chloride is preferred over Plasmalyte A as serum osmolality and serum sodium were maintained better with 0.45% sodium chloride infused in intraoperative and early postoperative period till patients were exclusively put on oral feed.

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Effect of intraoperative aneurysm rupture on perioperative complications and neurological outcome in adult patients undergoing surgical clipping for aneurysmal subarachnoid haemorrhage

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Introduction: Management of ruptured intracranial cerebral aneurysms remains formidable challenge despite the remarkable advancements in neurosurgery and neuroanaesthesia. Intraoperative rupture (IAR) is a well-known complication occurring during surgical clipping. We undertook this retrospective study to look for an association of IAR with perioperative complications and neurological outcome in adult patients who underwent surgical clipping for ruptured intracranial aneurysm with SAH. **Methods:** Data of all adult (Age >18 yrs) patients who underwent surgical clipping for aneurysmal subarachnoid haemorrhage (aSAH) at our institute between January 2013 and December 2014 was collected. The patients were then divided into two groups based on occurrence of IAR. Intraoperative complications and postoperative complications were noted. Neurological outcome was