IRRAS

<html><iframe src="https://player.vimeo.com/video/680534640?h=a0064a096f" width="640" height="360" frameborder="0" allow="autoplay; fullscreen; picture-in-picture" allowfullscreen></iframe> IRRAflow SIZZLE 2022 from IRRAS on Vimeo. </html>

Baig et al. explored the use of a novel double-lumen active automated irrigation and aspiration system, IRRAflow (IRRAS), for patients with cSDH and compared procedural and clinical outcomes against passive drainage alone with propensity score matching (PSM) and volumetric analysis.

Methods: A prospectively maintained database was retrospectively searched for consecutive patients presenting with cSDH. One-to-one PSM of covariates (including baseline comorbidities and presentation hematoma volume) in active and passive irrigation groups was performed to adjust for treatment selection bias. Rates of hematoma clearance, catheter-related occlusion, and infection; number of revisions; and length of hospital stay were recorded.

Results: This study included 55 patients: active continuous irrigation-drainage-21 (21 post-PSM) and passive drainage-34 (21 post-PSM). For PSM groups, a significantly higher rate of hematoma clearance was obtained in the active irrigation-drainage group (0.5 ± 0.4 vs 0.4 ± 0.5 mL/day) and in the passive drainage group; odds ratio (OR) = 1.291 (CI: 1.062-1.570, P = .002) and a significantly lower rate of catheter-related infections (OR = 0.051; CI: 0.004-0.697, P = .039). A nonsignificantly lower hematoma expansion rate at discharge was noted in the active irrigation-drainage group (4.8% vs 23.8%; OR = 0.127; P = .186). No statistical difference in all-cause in-hospital mortality or discharge Glasgow Coma Scale score was observed between groups.

Conclusion: Active and automated continuous irrigation plus drainage after cSDH surgical evacuation resulted in faster hematoma clearance and led to favorable clinical outcomes and low complication and revision rates compared with passive irrigation [1].

Tran et al. presented the first use of an irrigating external ventricular drain in the United States in the perioperative management of a patient with cSDH treated with craniotomy (IRRAS, Stockholm, Sweden).

An 82-year-old male presented with right-sided weakness, confusion, and right-sided neglect with expressive aphasia. He was found to have a large 2.5-cm cSDH with a 9-mm left-to-right midline shift. The patient was treated with a mini craniotomy to evacuate the hematoma and placement of an irrigating drain in the subdural space. The patient was discharged home on a postoperative day 3 without complication. He was at neurologic baseline 2 weeks later on follow-up.

The use of an irrigating drain for perioperative management of cSDH is a novel means to prevent recurrence and warrants further exploration [2].

1)
Baig AA, Hess RM, Khan A, Cappuzzo JM, Turner RC, Hashmi E, Bregy A, Kuo CC, Nyabuto E, Goyal AD, Davies JM, Levy EI, Siddiqui AH. Use of Novel Automated Active Irrigation With Drainage Versus Passive Drainage Alone for Chronic Subdural Hematoma-A Propensity Score-Matched Comparative

Study With Volumetric Analysis. Oper Neurosurg (Hagerstown). 2023 Feb 1. doi: 10.1227/ons.0000000000000630. Epub ahead of print. PMID: 36723341.

2) Tran DK, Tretiakov P, Brock J, Chen J, Vadera S. Novel Use of Dual-Lumen Catheter for Irrigation and Drainage After Evacuation of Chronic Subdural Hematoma. World Neurosurg. 2019 Dec;132:343-346. doi: 10.1016/j.wneu.2019.08.225. Epub 2019 Sep 7. PMID: 31505285.