

Author (Date)	Level of Evidence	Sample/Setting (# of subjects/studies, cohort, definition, etc)	Outcome(s) studied	Key findings	Limitations and Biases
Zoghbi, M, et. al (2024)	Narrative review	Review of current literature on adult pt's presenting to the ED with brain metastases and associated vasogenic edema (no patient cohort or sample size applicable)	-ED presentation of brain metastases -Recognition and management of vasogenic edema -Role of dexamethasone and other tx options -Recommendations for stabilization and multidisciplinary management	-Brain metastases commonly present as neurologic emergencies and may mimic acute stroke -Dexamethasone is recommended as first-line therapy for symptomatic vasogenic edema -Early stabilization in the ED is important before definitive neurosurgical to -The lowest effective dose of dexamethasone should be used and tapered	- Does not include a formal quality of assessment of included studies - No direct comparison of immediate vs delayed steroid administration - Conclusions are based largely on expert consensus and previously published literature rather than new clinical data
Shroader, Tanja et. al (2019)	Retrospective cohort study	Sample size: 299 adults with newly diagnosed brain metastases; 2,759 brain metastases analyzed on MRI Comparison: patients who received glucocorticoids (126) vs those who did not (173) before MRI	-Radiographic reduction in vasogenic edema -Relationship between dexamethasone use, tumor size/number, and edema volume -Effect of corticosteroid dose on edema reduction	-Dexamethasone was associated with greater reduction in vasogenic edema, particularly in pts with larger and multiple brain mets -Higher steroid dose did not produce greater edema reduction -Primary tumor type did not significantly influence response to corticosteroids	- Retrospective, observational design cannot establish causation - Single-center study limits generalizability - Selection bias: pts receiving steroids generally had more severe disease - Evaluated radiographic outcomes rather than direct neurologic or functional outcomes
Ryken, Timothy C, et. al (2019)	Systematic review	Sample: reviewed studies involving adult pts with metastatic brain tumors Size: only 2 studies met inclusion criteria for steroid recommendations	-Improvement in neurologic symptoms -Quality of life -Appropriate dexamethasone dosing -Choice of corticosteroid -Duration & tapering of steroid therapy	-Dexamethasone is recommended for symptomatic pts with brain mets causing vasogenic edema -Recommended starting dose is 4-8 mg/day for mild sx and 16 mg/day or more for severe sx -Dexamethasone is the preferred corticosteroid & should be tapered as rapidly as clinically possible	- Limited available evidence: only 2 studies met inclusion criteria - Focuses only on brain mets, which may limit generalizability to all intracranial tumors

Schwarzrock, C et.al (2016)	Narrative review	Review of evidence-based clinical practice guidelines and published literature on dexamethasone use in adults with brain tumors & cerebral edema	-Dexamethasone dosing and tapering -Management of steroid-induced adverse effects -Role of multidisciplinary collaboration in causing for pts with cerebral edema -Gaps in existing clinical practice guidelines	-Dexamethasone is the first-line corticosteroid for symptomatic vasogenic edema associated with brain tumors -Clinical guidelines consistently recommended appropriate dosing, tapering, and monitoring for steroid-related complications -Management of these pts requires collaboration between emergency physicians, neurosurgeons, & oncologists	No original patient data or statistical analysis Conclusions rely on previously published guidelines and expert opinion Highlights the lack of high-quality randomized studies on corticosteroid dosing, duration, & monitoring in pts with cerebral edema
Gri, N., et. al (2023)	Narrative review	Reviewed 156 published papers from PubMed, Scopus, MEDLINE, Embase, and Google Scholar (Jan 1981-April 2023) Focused on the management of oncologic emergencies in ED's & critical care settings	-Recognition & management of oncologic emergencies -Neurologic emergencies (including intracranial tumors & vasogenic edema) -ED stabilization & multidisciplinary management -Role of corticosteroids & other acute interventions	-Neurologic emergencies from intracranial tumors require prompt recognition & stabilization in the ED -Dexamethasone is recommended as first-line therapy for symptomatic vasogenic edema -Early multidisciplinary involvement is essential for optimal pt outcomes	No original patient cohort or quantitative analysis Conclusions are based on previously published studies with varying levels of evidence Reviews oncologic emergencies broadly, so recommendations for vasogenic edema are not the sole focus