

Clinical Question: As in the past, please briefly outline the scenario and state your clinical question as concisely and specifically as possible

Patient is a 75 YOF with PMHx of dementia who was brought to the ED by her daughter as a stroke alert. Patient's daughter reports that they were eating lunch together when she noticed food falling from the left side of the patient's mouth, accompanied by left-sided facial drooping. Shortly after, the patient complained of pain in the left occipital region of her head. The onset of symptoms occurred about 3 hours prior to arrival. On physical exam, patient demonstrated a mild left-sided facial droop. The remainder of the neurological exam was unremarkable. She was immediately taken for a non-contrast CT of the head to evaluate for an acute ischemic vs hemorrhagic stroke.

CT revealed vasogenic edema associated with an intracranial mass rather than evidence of an acute CVA. Given these findings, patient was going to be transferred to Bellevue Hospital for further neurologic evaluation and management. There was discussion on whether corticosteroids should be administered before transfer.

In adults presenting to the emergency room with symptomatic vasogenic edema secondary to newly diagnosed intracranial tumor, does initiating dexamethasone before neurosurgical consult compared with after neurosurgical consult improve neurologic recovery and prevent clinical deterioration?

PICO Question: Identify the PICO elements – this should be a new topic/question.

P	I	C	O
Intracranial brain tumor	Immediate dexamethasone administration	No immediate steroid use	Neurological improvement
Vasogenic edema secondary to brain tumor	Early steroid use	Observation until specialist evaluation	Reduction in cerebral edema
Symptomatic brain mass	Early corticosteroid use	Delayed corticosteroid administration	Functional neurological outcomes
	Dexamethasone		

Search Strategy: Outline the terms used, the databases or other tools used, how many articles returned, and how you selected the final articles to base your CAT on.

PubMed:

Dexamethasone AND vasogenic edema AND neurological improvement: 12 results

Filters: free full text, meta analysis, RCT, systematic review: 1 result

Immediate steroid administration AND Intracranial tumor AND Neurosurgery consult: 2 results

Filters: free full text, meta analysis, RCT, systematic review: 1 result

Steroid administration AND Specialist AND Intracranial tumor: 6 results

Filters: free full text, meta analysis, RCT, systematic review: 0 results

Google Scholar:

Immediate vs delayed steroid administration for intracranial mass causing vasogenic edema: 19,000 results

Filters: since 2022, review articles, sort by relevance: 7,070 results

Dexamethasone administration for vasogenic edema before neurosurgery consult: 17,600 results

Filters: since 2022, review articles, sort by relevance: 1,190 results

Cochrane:

Immediate steroid administration AND vasogenic edema AND neurosurgery consult: 1 result

How I chose the articles:

One of the greatest challenges in choosing articles for my PICO question was finding studies that specifically compared the timing of dexamethasone administration (immediate administration in the ED vs delayed administration after neurosurgical consult). Despite searching multiple databases using various combinations of keywords, I was unable to identify any studies directly comparing these two approaches. However, I chose to continue to investigate this question because it arose from a real clinical scenario and since emergency physicians frequently encounter patients with newly discovered intracranial masses and vasogenic edema, understanding whether early steroid administration improves patient outcomes is an important and clinically relevant question.

Further, many of the studies I chose were not of the highest level of evidence. This is likely because intentionally delaying corticosteroid therapy in patients with symptomatic vasogenic edema is generally considered unethical. These patients are at risk for elevated ICP, worsening cerebral edema, and progressive neurologic deficits, making it inappropriate to randomize patients to delayed treatment. As a result, there is a lack of RCTs directly addressing my PICO question.

Because direct comparison studies were unavailable, I broadened my search to include studies evaluating the effectiveness of dexamethasone and management of intracranial masses causing vasogenic edema specifically in the emergency setting. I prioritized higher-level evidence when available, recent publications, and articles relevant to ED stabilization and corticosteroid use before neurosurgical management. Although several articles focused on brain metastases, they were included because the management of symptomatic vasogenic edema is similar across intracranial tumors.

Articles Chosen (5 or more) for Inclusion (please include the abstract with its weblink):

Please pay attention to whether the articles actually address your question and whether they are the highest level of evidence available. If you cannot find high-quality articles, be prepared to explain the extent of your search and why there aren't any better sources available. Please note that if the evidence is not in the abstract, you must clearly summarize the evidence in your posting.

1. Zoghbi, M., Moussa, M. J., Dagher, J., Haroun, E., Qdaisat, A., Singer, E. D., Karam, Y. E., Yeung, S.-C. J., & Chaftari, P. (2024). Brain metastasis in the emergency department: Epidemiology, presentation, investigations, and management. *Cancers*, 16(14), 2583. <https://doi.org/10.3390/cancers16142583>

Type of article: Narrative review

Abstract:

Brain metastases (BMs) are the most prevalent type of cerebral tumor, significantly affecting survival. In adults, lung cancer, breast cancer, and melanoma are the primary cancers associated with BMs. Symptoms often result from brain compression, and patients may present to the emergency department (ED) with life-threatening conditions. The goal of treatment of BMs is to maximize survival and quality of life by choosing the least toxic therapy. Surgical resection followed by cavity radiation or definitive stereotactic radiosurgery remains the standard approach, depending on the patient's condition. Conversely, whole brain radiation therapy is becoming more limited to cases with multiple inoperable BMs and is less frequently used for postoperative control. BMs often signal advanced systemic disease, and patients usually present to the ED with poorly controlled symptoms, justifying hospitalization. Over half of patients with BMs in the ED are admitted, making effective ED-based management a challenge. This article reviews the epidemiology, clinical manifestations, and current

treatment options of patients with BMs. Additionally, it provides an overview of ED management and highlights the challenges faced in this setting. An improved understanding of the reasons for potentially avoidable hospitalizations in cancer patients with BMs is needed and could help emergency physicians distinguish patients who can be safely discharged from those who require observation or hospitalization.

Keywords: brain metastases; cancer; emergency department; epidemiology; presentation; investigation; management

Key points:

- Brain metastases can mimic acute ischemic stroke, presenting with symptoms such as facial droop, unilateral weakness, headache, and altered mental status, making them an important stroke mimic in the ED
- Vasogenic edema is the primary cause of neurologic symptoms, resulting from disruption of the blood-brain barrier and leading to increased ICP and focal neurologic deficits
- Dexamethasone is the first-line treatment for symptomatic vasogenic edema, providing rapid neurologic improvement by reducing cerebral edema. Steroids are not routinely recommended for asymptomatic patients due to potential adverse effects
- Definitive management requires a multidisciplinary approach, with treatment individualized through neurosurgery, radiation oncology, and medical oncology after initial stabilization
- Current evidence supports using the lowest effective dose of dexamethasone for the shortest duration possible to minimize complications while effectively managing symptoms

I chose this article because it provides evidence that supports the use for early corticosteroids in patients with symptomatic vasogenic edema, discusses recommendations for steroid dosing, and explains the importance of rapid stabilization before definitive neurosurgical evaluation. Additionally, because my patient's intracranial mass had not yet been identified as a primary brain tumor or metastatic lesion at the time of presentation, the discussion of brain metastases remains clinically relevant, as they are the most common intracranial tumor in adults and frequently produce vasogenic edema. Although this is a narrative review rather than a high level of evidence study, it was included because it synthesizes current evidence and expert recommendations from multiple sources while specifically focusing on ED management.

2. Efficiency of Dexamethasone for Treatment of Vasogenic Edema in Brain Metastasis Patients: A Radiographic Approach. (2019). *Frontiers in Oncology*, 9, 695. <https://doi.org/10.3389/fonc.2019.00695>

Type of article: Retrospective cohort study

Abstract:

Background and Purpose: To date, imaging studies quantifying the amount of vasogenic edema reduction (VE) in patients with brain metastases (BM) treated with glucocorticoids (GC) have included a very limited number of patients and showed ambiguous results. Here, we aim to determine the radiological effect of GC on VE in BM patients in a large cohort with multiple primary tumor entities in a cross-sectional approach.

Materials and Methods: This monocentric retrospective study includes 299 patients first-ever diagnosed with 2,759 intra-axial BM on the respective MRI. 126/299 patients received GC prior to MRI due to mass effect of edema on cranial CT scan and clinical symptoms (GC-pos) and 173 patients did not (GC-neg). GC dose was documented in 85/126 patients. All BM and their respective VE were semi-automatically segmented on post-contrast T1-weighted images.

Results: VE volumes were higher in GC-pos compared to GC-neg ($p = 0.009$) and did not correlate with

GC dose. Multivariate linear regression analysis with interaction terms on the assumption that BM volume and BM number influence the probability of GC administration shows that large and higher numbers of BM under GC treatment generate less VE than without ($p < 0.001$ and $p = 0.038$, respectively). The primary tumor type and total BM volume did not influence VE volume.

Conclusion: Use of GC is especially effective for treatment of VE formation in patients with larger and multiple BM regardless of primary tumor type and dosage. However, based on the present data a direct causative relationship between GC and VE cannot be proven.

Key points:

- Dexamethasone significantly reduced vasogenic edema, particularly in patients with larger brain metastases and greater baseline edema volumes
- Patients with multiple or larger metastatic lesions experienced the greatest radiographic benefit from corticosteroid therapy, suggesting that tumor burden may predict the degree of response to dexamethasone
- Higher doses of dexamethasone were not associated with greater edema reduction, supporting the use of the lowest effective dose to minimize steroid-related adverse effects
- Symptomatic patients with vasogenic edema are routinely treated immediately in the ED. This supports practice of prompt steroid administration in patients with neurologic deficits from intracranial masses

I chose this article because it is a retrospective cohort study that evaluates dexamethasone for vasogenic edema associated with intracranial tumors. The findings support current ED management by demonstrating the effectiveness of early corticosteroid therapy in reducing cerebral edema and improving neurologic symptoms in symptomatic patients. Additionally, the authors explain that delaying steroid administration is generally considered unethical because patients with symptomatic vasogenic edema are routinely treated promptly upon presentation. This article therefore reinforces the rationale for early stabilization in the ED before definitive neurosurgical evaluation and was highly applicable to my patient.

3. Congress of Neurological Surgeons. (2019). Role of steroids in the treatment of adults with metastatic brain tumors: Congress of Neurological Surgeons systematic review and evidence-based clinical practice guideline. Congress of Neurological Surgeons. <https://www.cns.org/guidelines/treatment-adults-metastatic-brain-tumors/role-of-steroids-in-treatment-of-adults-with-metas>

Type of article: Systematic review

Abstract:

Questions: Do steroids improve neurologic symptoms and/or quality of life in patients with metastatic brain tumors compared to supportive care only or other treatment options? If steroids are given, what dose should be used?

Target population: These recommendations apply to adults diagnosed with brain metastases.

Recommendations:

Steroid therapy versus no steroid therapy

Asymptomatic brain metastases patients without mass effect

Insufficient evidence exists to make a treatment recommendation for this clinical scenario.

Brain metastases patients with mild symptoms related to mass effect

Level 3: Corticosteroids are recommended to provide temporary symptomatic relief of symptoms related to increased intracranial pressure and edema secondary to brain metastases. It is

recommended for patients who are symptomatic from metastatic disease to the brain that a starting dose of 4–8 mg/day of dexamethasone be considered.

Brain metastases patients with moderate to severe symptoms related to mass effect

Level 3: Corticosteroids are recommended to provide temporary symptomatic relief of symptoms related to increased intracranial pressure and edema secondary to brain metastases. If patients exhibit severe symptoms consistent with increased intracranial pressure, it is recommended that higher doses such as 16 mg/day or more be considered.

Choice of Steroid

Level 3: If corticosteroids are given, dexamethasone is the best drug choice given the available evidence.

Duration of Corticosteroid Administration

Level 3: Corticosteroids, if given, should be tapered as rapidly as possible but no faster than clinically tolerated, based upon an individualized treatment regimen and a full understanding of the long-term sequelae of corticosteroid therapy.

Key points:

- Corticosteroids are recommended for patients with symptomatic brain metastases causing vasogenic edema and increased ICP. It is recommended to initiate dexamethasone 4-8 mg/day for patients with mild symptoms and consider 16 mg/day or higher for patients with severe symptoms
- Dexamethasone is the preferred corticosteroid because of its long half-life, potent anti-inflammatory effects, and relatively low mineralocorticoid activity. Clinical improvement is often observed within 24-72 hours of treatment initiation
- Steroids should be tapered as rapidly as clinically tolerated once neurologic symptoms improve to minimize complications such as hyperglycemia, immunosuppression, GI bleeding, and neuropsychiatric effects

I chose this article because it is a systematic review, making it one of the highest levels of evidence available for this topic. Although it focuses on patients with brain metastases, the recommendations for managing symptomatic vasogenic edema are applicable to patients presenting with intracranial masses regardless of the underlying pathology. The guideline directly supports ED management by recommending prompt initiation dexamethasone in symptomatic patients to reduce cerebral edema and improve neurologic function before definitive neurosurgical evaluation. This closely aligns with my patient's presentation and supports the rationale for early corticosteroid therapy in the ED.

4. Schwarzrock, C. (2016). Collaboration in the presence of cerebral edema: The complications of steroids. *Surgical Neurology International*, 7(Suppl. 7), S185–S189. <https://doi.org/10.4103/2152-7806.179228> Link: <https://pmc.ncbi.nlm.nih.gov/articles/PMC4825348/>

Type of article: Narrative review

Abstract:

Background: Brain tumor patients often present with neurological changes in the presence of cerebral edema. High-dose dexamethasone is often required for symptom management in brain tumor patients. There are limitations in the foundational research that support the recommendations for appropriate prescribing of dexamethasone. Understanding these limitations can help prescribers and care teams collaborate to better manage this unique patient population as well as identify areas for further research.

Methods: Evidence-based clinical practice guidelines for the management of adult brain tumor patients were reviewed from several certifying organizations. A complex database search and literature review was completed regarding relevant evidence used within these guidelines and for any supporting literature. The search was limited to MEDLINE, Cumulative Index to Nursing and Allied Health, Cochrane Library, and the National Guideline Clearinghouse using keywords. Each selected evidence-based guideline underwent appraisal using the Johns Hopkins Evidence-based Practice Model.

Results: All clinical practice guidelines identified recommendations for appropriate dosing and tapering of dexamethasone. The management of steroid-induced side effects was addressed in two of the reviewed guidelines. Only one guideline identified specific nursing interventions for monitoring steroid-related side effects. No guideline addressed interval timing of provider or nursing-based interventions as well as the role of collaboration between provider and nurse in monitoring for steroid toxicities.

Conclusions: More high-quality, well-controlled studies are needed around dexamethasone dosing for the management of cerebral edema. Clinical practice guidelines need to encompass both the prescriber and nursing-based interventions. Collaboration between disciplines is a necessity when monitoring and managing steroid-induced toxicities in brain tumor patients. Future evidence-based guidelines need recommendations for appropriate interval screening tests and quantifiable tools needed to aid in monitoring steroid-induced complications.

Keywords: Brain tumor, cerebral edema, dexamethasone, steroids, vasogenic edema

Key points:

- Dexamethasone is the first-line treatment for symptomatic cerebral edema caused by intracranial tumors because it reduces vasogenic edema and improves neurologic symptoms
- Management requires a multidisciplinary approach, including emergency physicians, neurosurgeons, and oncologists to stabilize patients and coordinate definitive treatment
- The author notes a lack of high-quality evidence regarding the optimal dose and duration of corticosteroid therapy, highlighting the need for further research

I chose this article because although it is a narrative review rather than a high-level evidence study, it provides a comprehensive overview of the current evidence and clinical guidelines regarding corticosteroid use in patients with cerebral edema secondary to intracranial tumors. It is particularly relevant because it discusses the role of early dexamethasone administration in the emergency setting, the importance of rapidly stabilizing symptomatic patients before definitive neurosurgical treatment, and the potential complications associated with corticosteroid therapy. Additionally, it identifies gaps in the literature regarding optimal dosing and treatment duration, supporting the need for further research in this area.

5. Gri, N., Paccagnella, A., Berretta, M., Fisichella, R., De Paoli, P., Spina, M., & Berretta, S. (2023). Acute oncologic complications: Clinical-therapeutic management in critical care and emergency departments. *Current Oncology*, 30(8), 531. <https://doi.org/10.3390/curroncol30080531>

Type of article: Narrative review

Abstract:

Introduction: It is now known that cancer is a major public health problem; on the other hand, it is less known, or rather, often underestimated, that a significant percentage of cancer patients will experience a cancer-related emergency. These conditions, depending on the severity, may require treatment in intensive care or in the emergency departments. In addition, it is not uncommon for a tumor pathology to manifest itself directly, in the first instance, with a related emergency. The emergency unit proves to be a fundamental and central unit in the management of cancer patients. Many cancer cases are

diagnosed in the first instance as a result of symptoms that lead the patient's admittance into the emergency room.

Materials and Methods: This narrative review aims to analyze the impact of acute oncological cases in the emergency setting and the role of the emergency physician in their management. A search was conducted over the period January 1981–April 2023 using the main scientific platforms, including PubMed, Scopus, Medline, Embase and Google scholar, and 156 papers were analyzed. **Results.** To probe into the main oncological emergencies and their management in increasingly overcrowded emergency departments, we analyzed the following acute pathologies: neurological emergencies, metabolic and endocrinological emergencies, vascular emergencies, malignant effusions, neutropenic fever and anemia.

Discussion/Conclusions: Our analysis found that a redefinition of the emergency department connected with the treatment of oncology patients is necessary, considering not only the treatment of the oncological disease in the strict sense, but also the comorbidities, the oncological emergencies and the palliative care setting. The need to redesign an emergency department that is able to manage acute oncological cases and end of life appears clear, especially when this turns out to be related to severe effects that cannot be managed at home with integrated home care. In conclusion, a redefinition of the paradigm appears mandatory, such as the integration between the various specialists belonging to oncological medicine and the emergency department. Therefore, our work aims to provide what can be a handbook to detect, diagnose and treat oncological emergencies, hoping for patient management in a multidisciplinary perspective, which could also lead to the regular presence of an oncologist in the emergency room.

Keywords: oncology; oncological emergencies; emergency medicine; crowding; emergency medicine; hematology/medical oncology; internal medicine; palliative care

Key points:

- Neurologic emergencies from intracranial tumors require immediate recognition and stabilization in the ED
- Dexamethasone is recommended as first-line therapy for symptomatic vasogenic edema, as it rapidly reduces cerebral edema and serves as a bridge to definitive management
- Definitive management requires a multidisciplinary approach, including neurosurgery, radiation oncology, and medical oncology
- Prompt diagnosis and treatment are essential to prevent neurologic deterioration, emphasizing the importance of rapid ED evaluation, stabilization, and timely referral to specialized care

I chose this article because although it is a narrative review, it provides a comprehensive overview of the ED management of oncologic neurologic emergencies, including the role of dexamethasone in treating symptomatic vasogenic edema. This is directly applicable to my patient's presentation as a stroke alert who was ultimately found to have an intracranial mass and supports the importance of early stabilization before definitive neurosurgical management.

Conclusion(s): Briefly summarize the conclusions of each article - Then provide an overarching conclusion.

- Zoghbi, M, et. al (2024)
 - The article discusses the emergency department evaluation and management of patients presenting with brain metastases. It emphasizes that patients commonly present with symptoms related to increased intracranial pressure, vasogenic edema, or focal neurologic deficits, requiring rapid recognition and stabilization. The authors review the role of neuroimaging, corticosteroids (specifically dexamethasone) for symptomatic vasogenic edema, and neurosurgical or radiation oncology consult. The article also highlights the importance of

timely multidisciplinary management and individualized treatment decisions based on the patient's neurologic status, tumor characteristics, and overall prognosis to optimize outcomes.

- Shroader, Tanja et. al (2019)
 - This study evaluated the effectiveness of dexamethasone in reducing vasogenic edema in 299 patients with brain metastases. Using MRI-based measurements, the authors found that glucocorticoid therapy was associated with significantly less vasogenic edema in patients with larger or multiple brain metastases, regardless of the primary tumor type or steroid dose. While the study could not establish a direct causal relationship because of its retrospective design, the findings support the use of dexamethasone as an effective treatment for symptomatic vasogenic edema and reinforces its role in the management of patients with brain metastases presenting with neurologic symptoms.
- Ryken, Timothy C, et. al (2019)
 - This article reviews the available literature on corticosteroid use for adults with brain metastatic brain tumors and provides recommendations for managing vasogenic edema and increased intracranial pressure. It recommends dexamethasone as the corticosteroid of choice for symptomatic patients and also emphasizes using the lowest effective dose and tapering it as soon as clinically possible to minimize adverse effects.
- Schwarzrock, C et.al (2016)
 - This review examines the evidence supporting dexamethasone use for managing cerebral edema in patients with brain tumors and identifies important gaps in current clinical practice guidelines. The authors explain the pathophysiology of vasogenic edema, review existing recommendations for corticosteroid dosing and tapering, and discuss the adverse effects associated with prolonged steroid therapy. They conclude that although dexamethasone remains the standard treatment for symptomatic cerebral edema because of its effectiveness in reducing neurologic symptoms, the evidence guiding optimal dosing and monitoring is limited. The review emphasizes the need for multidisciplinary collaboration and additional high-quality research to establish standardized protocols that optimize symptom control while minimizing steroid-related complications.
- Gri, N., et. al (2023)
 - This article examines the evolving management of brain metastases, emphasizing the integration of surgery, stereotactic radio surgery, whole brain radiation therapy, targeted therapies, immunotherapy, and supportive care. The authors discuss the important role of corticosteroids, particularly dexamethasone, for rapid relief of symptoms caused by vasogenic edema and increased ICP while highlighting the need to use the lowest effective dose for the shortest duration due to its potential adverse effects. The article also emphasizes the importance of multidisciplinary, individualized approach to optimize neurologic outcomes and overall quality of life for patients with brain metastases.

Overall:

The available evidence supports the early administration of dexamethasone in the emergency department for adults presenting with symptomatic intracranial tumors causing vasogenic edema rather than delaying treatment until after neurosurgical consult. Across the reviewed studies, dexamethasone consistently demonstrated its effectiveness in reducing vasogenic edema, relieving neurologic symptoms, and decreasing ICP, making it a critical component of the initial stabilization of symptomatic patients. Clinical practice guidelines and review articles recommend prompt corticosteroid therapy for patients with neurologic deficits or evidence of increased ICP, while emphasizing the use of the lowest effective dose and tapering therapy as soon as clinically possible to minimize adverse effects. Although direct comparison studies evaluating immediate vs delayed administration are lacking, the current literature suggests that postponing steroid treatment may unnecessarily prolong cerebral edema and neurologic dysfunction. Therefore, for patients presenting to the ED with symptomatic vasogenic edema from an intracranial tumor, the evidence supports initiating dexamethasone promptly while simultaneously arranging urgent neurosurgical consult and multidisciplinary management.

Clinical Bottom Line: Please include an assessment of the following:

- **Weight of the evidence** – summarize the weaknesses/strengths of the articles and explain how they factored into your clinical bottom line (this may recap what you discussed in the criteria for choosing the articles)
- **Magnitude of any effects**
- **Clinical significance (not just statistical significance)**
- **Any other considerations important in weighing this evidence to guide practice** - If the evidence you retrieved was not enough to conclude an answer to the question, discuss what aspects still need to be explored and what the next studies will have to answer/provide (e.g. larger number, higher level of evidence, answer which sub-group benefits, etc)

The overall weight of the evidence supports early dexamethasone administration in the ED for adults with symptomatic intracranial tumors causing vasogenic edema, but the strength of this conclusion is limited by the quality of available studies. The strongest article was the Congress of Neurological Surgeons guideline (Ryken, Timothy C, et. al), which systematically reviewed available evidence and recommended dexamethasone for symptomatic patients with brain mets causing edema or increased ICP. The retrospective cohort study by Schroeder et. al added measurable support by showing that glucocorticoid therapy was associated with reduced vasogenic edema, but it could not prove causation because of its retrospective design. The remaining articles were narrative reviews, which were useful for understanding ED management, clinical practice patterns, and multidisciplinary care, but they are lower level evidence and do not directly compare immediate vs delayed steroid administration. This limitation was important in forming my clinical bottom line: that the evidence supports early dexamethasone as standard stabilization, but it does not definitively prove that ER administration is superior to waiting for neurosurgical consult.

The magnitude of effect appears clinically meaningful, even though exact effect sizes for “immediate vs delayed” administration were not available. Dexamethasone is consistently described as reducing vasogenic edema, lowering symptoms related to increased ICP, and improving neurologic symptoms, often within 24-72 hours. In the Schroeder et al. study, the benefit appeared greatest in patients with larger tumor burden or multiple lesions, suggesting that patients with more significant edema may experience the most noticeable improvement. Clinically, this matters because even temporary improvement in edema or neurologic symptoms can stabilize a patient, prevent worsening deficits, and allow safer transfer.

The clinical significance is greater than the statistical findings alone. In a patient like mine, who presented as a stroke alert with facial droop and was found to have vasogenic edema from an intracranial mass, delaying dexamethasone could prolong neurologic dysfunction or allow worsening edema while awaiting specialty input. Since dexamethasone is already recommended for symptomatic edema and is used as a bridge to definitive treatment, early administration in the ED is clinically reasonable when imaging supports vasogenic edema and the patient is symptomatic. However, steroids should not be used routinely in asymptomatic patients, and dosing should be individualized using the lowest effective dose and tapering as soon as clinically possible.

Overall, my clinical bottom line is that corticosteroids (specifically dexamethasone) should be administered promptly in the ED for symptomatic vasogenic edema from an intracranial tumor while neurosurgical consult or transfer is being arranged. The evidence is not strong enough to prove that immediate ED administration improved long-term neurologic outcomes compared with delayed administration after neurosurgical consult, but the available evidence, guideline recommendations, and ethical concerns about delaying treatment all support early stabilization. Future studies would need to better define which subgroups benefit most, optimal dosing, timing of administration, adverse-effect monitoring, and patient-centered outcomes. Because intentionally delaying steroids in symptomatic

patients may be unethical, future research may need to rely on multicenter observational studies rather than randomized trials.