

Case study

A case report on Nursing Care Of Craniopharyngioma

Abstract

We present a case of an unusual craniopharyngioma occurring in the left temporal lobe with no previous brain trauma or surgery. Craniopharyngioma are benign tumours that develop slowly and are found in the sellar and parasellar regions of the central nervous system. This tumours has a point prevalence of about 2/100,000. Symptoms usually appear gradually, with most patients developing neurological (headaches, vision disturbances) and endocrine (growth retardation, accelerated puberty) dysfunction.¹³

Case presentation

After undergoing biopsy, M.R.I., and C.T., a 45 year old man was admitted to Acharya Vinoba Bhave Rural Hospital on 13/02 2021 with the main complaint of blurring of vision in right eye, headache, polyurea since 5 month, polydipsia, and altered behavior since 2 month. After a C.T. Scan, the patient was diagnosed with a craniopharyngioma.

Conclusion: The patient was admitted to Acharya Vinoba Bhave Rural Hospital with blurred vision in the right eye, headache, polyurea, polydipsia, and altered conduct as his known causes. Going to follow all of the tests, the patient was diagnosed with a craniopharyngioma still the patient requires medical attention and appropriate nursing care.

Keywords: Craniopharyngioma, Endocrine dysfunction ,Polydipsia, Polyurea.

Introduction

1-5 percent of the primary intracranial tumours are craniopharyngiomas (CP). They are slow-growing non-gliial tumours that most often concern children and teenagers, as well as adults over the age of 50. Craniopharyngiomas are cancers that form near the hypothalamus in the brain. According to WHO classification, the aetiology of these lesions is unknown they are benign

Grade-1 tumours. They are however, often classified as malignant because they may cause medical problems by messing with neuroendocrine processes or causing neuropsychological complications.¹

Presentation of case

After undergoing biopsy, M.R.I, and C.T. a 45 year old man was admitted in neuro ward with the main complaint of blurring of vision in right eye, headache, polyurea since 5 month, polydipsia, and altered behavior since 2 month after a C.T. Scan, the patient was diagnosed with a craniopharyngioma.

Clinical diagnosis

Craniopharyngioma is a low-grade embryonic malformation of the sellar/ parasellar area. Based on all investigations by physicians, diagnosed through biopsy and marked multiple, abnormal, brownish tissue piece aggregating 6 x 5 x 1 cm.

Pathological discussion

Multiple irregular, brownish tissue fragments measuring 6 x 5 x 1 cm were found during biopsy.

Physical examination

The patients overall appearance was well and nourished but, since he is not healthy, he is sluggish by nature, and he has not retained with his hygiene and personal grooming. Owing to the patient unconsciousness, his emotional health could not be measured. The vital signs of the patient change over time and in relation to their illness. He has visual impairment due to direct infiltration and compression of the visual pathway, visual field defects, typically bitemporal hemianopia, and abnormal pupillary responses, as determined by an eye examination.

Medical management:

The patient is under treatment with combination of antibiotic, antiepileptic, analgesics, diuretic, antiemetic and antifibrinolytic compound. The prescribed drugs were administered as once a day via injection like:

Adrenaline 1ml: Adrenaline Tartrate Injection was administered in order to avoid severe allergic reaction and cardiac arrest intramuscularly in OD.

Ceftriaxone 1gm: Gonorrhoea, pelvic inflammatory disease, meningitis (infection of the membranes that surround the brain and spinal cord), and infections of the lungs, ears, skin, urinary tract, blood, bones, and the joints are all treated with ceftriaxone injection. Cold, flu and other viral infections do not respond to ceftriaxone injection.

Dexamethasone 2ml: Allergic reactions, skin conditions, ulcerative colitis, arthritis, lupus, psoriasis, and breathing disorders are all addressed with dexamethasone. Dexamethasone has a longer quarter than hydrocortisone and is more potent.

Furosemide 2ml: furosemide also known as lasix is loop diuretics. Furosemide has a couple of contraindications, hypersensitivity, cross sensitivity with thiazides and sulfonamides, hepatic coma and anuria, diabetes, low magnesium in the blood and low potassium in the blood are all potential dangers.

Levetiracetam: Levetiracetam is an antiepileptic drug. Side effects of levetiracetam is dizziness, headache, irritability, mood and behavior changes.

Ondansetron 2ml: The injection of ondansetron is used to prevent nausea and vomiting.

Phenytoin 100mg: Phenytoin is used to prevent and control seizures.

Tranexamic acid 5ml: Tranexamic acid works by inhibiting prolonged bleeding by slowing the breakdown of blood clots. It belongs to something like the antifibrinolytics class of drugs.

Surgical management:

Craniotomy done with emergency re explore in view of bleeding from residual tumor. The surgical removal of parts of the skull to expose the brain is known as cranial osteotomy. A craniotomy is a procedure that is used to diagnose, remove, or treat a brain tumour. General anesthesia was used for the cranial surgery.

Nursing management

1] Chronic headache

Chart 1. Nursing diagnosis: Chronic headache related to excessive pressure on brain secondary related to bleeding from residual tumor.

Nursing intervention	Rationale
1] Determine the extent and duration of a headache, as well as the underlying cause, recurrence and maturation of symptoms.	1] Provides information on the presence of a tumour in the form of a headache.
2] Analgesics had all been given as recommended.	2] Suffering experienced by tumours of the central nervous system is regarded with this drug.
3] During defecation, instruct the patient to avoid sneezing, coughing or straining.	3] avoids causing or exacerbating headaches by avoiding straining.

4] For low to moderate pain, apply a cool compress to the head.	4] Reduces facial edema if present, and promotes comfort and ease from a headache.
5] Consider placing the client in a comfortable position, with the head of the bed elevated.	5] To aid in the drainage of venous blood.

2] Visual impairment

Chart 2. Nursing diagnosis: Blurred vision of right eye related to compressed optic nerves secondary related to decreased visual acuity.

Nursing intervention	Rationale
1] Examine the patients vision and ability to perform activities.	1] Establishes a baseline for assessing changes in the patients visual acuity.
2] Encourage the patient to see an ophthalmologist once a year at the very least.	2] Can be used to track the progression of vision loss or complications. Visual acuity loss can cause confusion in the elderly.
3] Provides lighting that reduces glare on walls reading materials and other surfaces.	3] The eyes of elderly patients are more sensitive to glare and cataracts diffuse and glare, causing vision problems.
4] Make sure the patients room has a night light and that the lighting is adequate for the patients needs.	4] Adequate lighting aids in the prevention of injury.
5] Assist the patient in seeing larger print and encourages independence.	5] For teaching purposes, provide large print objects and visual aids.

3] Intolerance to physical activity

Chart 3. Nursing diagnosis: Intolerance to physical activity related to surgical procedure secondary to prolonged bed rest.

Nursing intervention	Rationale
1] Determine the level of physical activity and mobility of the patient.	1] The level of activity and mobility serve as a foundation for goal setting.
2] Determine the nutritional state of the patient.	2] For activities, sufficient energy reserves are required.
3] Adapt activities to the patients abilities.	3] To avoid over exertion.
4] Examine the social factors that are influencing the present situation.	4] Stress may increase effects of an illness.

5] Refer to various professions, such as physical or occupational therapy	5] To create treatment regimens that are tailored to each user.
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4] Verbal difficulties

Chart 4. Nursing Diagnosis: Verbal difficulties related to certain neurotransmitter biochemical changes through out the brain.

Nursing intervention	rationale
1] Maintain a low tone of voice and speak slowly as much as possible.	1] A high-pitched voice can increase agitation while slow speech aids comprehension.
2] Maintain a cool, peaceful atmosphere.	2] Keep fear from spiraling out of control, leading to confusion, hallucination and delusions.
3] Use plain or descriptive language as well as keeping the direction clear.	3 Even simple phrases can be difficult for the client to comprehend.
4] Demonstrate in a straight forward, concrete, and literal way.	4] Reduces miscommunication and transforms miscommunication into delusional structure.
5] To grasp the clients anxiety. I used therapeutic techniques.	5] Try to explain the fallings behind the sentences, even though they are difficult to understand.

5] Knowledge deficient

Chart 5. Nursing diagnosis: knowledge deficient related to absence of cognitive information.

Nursing intervention	Rationale
1] Establish a trusted relationship to facilitate cooperation and other therapeutic support Enable the patient and family to speak about or verbalize their thoughts about depression. Enable as much family engagement in the patients care as possible.	1] The effects of craniopharyngioma on the family can be devastating. Providing avenues for verbalization can aid in the promotion of understanding and cooperation during the caregiving profanities.
2] Determines the patient learning capacity.	2] To determine the clients cognitive development.
3]Provide knowledge that is important to the case to motivate the patient	3] To improve interaction in obtaining pertinent facts.
4] Provide detail on additional resources for	4] Its likely that this will help you learn more

learning.	or allow you to learn at your own speed.
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Discussion:

Case study with a positive outcome Mr. X, a 51-year-old man, had symptoms that included decreased motivation in the workplace, easy fatigability for 7 months, infrequent falls with giddiness for 6 months, recent memory impairment and increased appetite for 4 months, inability to walk steadily for 2 months, and bladder incontinence for 1 month, along with symptoms that suggested polydipsia and polyuria.² Patients who underwent surgery followed by radiation had a better prognosis, as did those who were 18 or younger compared to those who were older, men compared to females, and those who did not have a headache, however these differences were not statistically significant.³ Aside from surgical excision, papillary type craniopharyngioma had a lower recurrence rate than adamantinomatous type. The histologic classification of craniopharyngiomas, particularly in adults, is helpful in deciding therapy and follow-up decisions.⁴ There was no past history of head trauma or surgery in this case of craniopharyngioma in the left temporal lobe.⁵ Craniopharyngiomas are uncommon intracranial tumours that often cause neurological symptoms.⁶ A papillary craniopharyngioma that has metastatic potential The tumour grew on the opposite side of the craniotomy.⁷ The enormous head circumference at birth, the tumor's size, blindness, and hemiparesis seen before the age of 5 months suggested a prenatal process that went unrecognised due to insufficient gestational monitoring.⁸ Infrasellar craniopharyngioma is a rare condition, with just 35 occurrences reported in the literature.⁹ Malignant craniopharyngioma (MCP), initially identified by Akachi in 1987, is an extremely rare disease with cytological atypia, strong mitotic activity, and a dismal prognosis.¹⁰ They're more common in children and the elderly (55-74 years). Craniopharyngiomas can impact the hypothalamus, pituitary stalk, optic nerves, chiasm, and carotid arteries, depending on the tumour size and growth direction.¹¹ Infrasellar craniopharyngiomas are a type of craniopharyngiom that arises from enamel-forming neural crest cells.¹² In the treatment of paediatric craniopharyngioma, stereotactic neurosurgery offers safe, minimally invasive, and cost-effective solutions.¹³

Nurses play an important role in the care of craniopharyngioma patients by preventing and detecting problems, educating patients and families about the significance of long-term follow-up, and collaborating with multidisciplinary teams.¹⁴

Conclusion: The patient was admitted neuro ward with blurred vision in the right eye, headache, polyurea, polydipsia and altered conduct as his known causes. Going to follow all of the tests, the patient was diagnosed with a craniopharyngioma still , the patient requires medical attention and appropriate nursing care.

CONSENT AND ETHICAL APPROVAL

As per international standard or university standard guideline patients consent and ethical

approval has been collected and preserved by the authors.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

Authors have declared that no competing interests exist. The products used for this research are commonly and predominantly use products in our area of research and country. There is absolutely no conflict of interest between the authors and producers of the products because we do not intend to use these products as an avenue for any litigation but for the advancement of knowledge. Also, the research was not funded by the producing company rather it was funded by personal efforts of the authors.

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