



Recurrence of Pilocytic Astrocytoma Responding to Chemohormonal Treatment

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Abstract

Background: Pilocytic astrocytoma or juvenile pilocytic astrocytoma or cystic cerebellar astrocytoma is a brain tumour that occurs more often in children and young adults. The tumours are usually slow growing and benign. The recurrence sometimes huge.

Case Report: In 2008, a 17yrs old young lady was evaluated for headache & vomiting. She was diagnosed with pilocytic astrocytoma.

She underwent a parietal craniotomy & excision followed by adjuvant radiation 50Gy in 25F from 19/10/2008 to 19/11/2008 in Dhaka. (No preoperative imaging was available).

In 2017 January she developed huge recurrence involving right parietal area thalamus, having obstructive hydrocephalus.

She was rendered unresectable, started palliative chemohormonal therapies. She responded well still surviving for 15 months.

Conclusion: Chemohormonal therapy could prolong survival in unresectable recurrent pilocytic astrocytoma.

Keywords: Pilocytic Astrocytoma; Chemohormonal Therapy; Cerebellar Astrocytoma

Introduction

Pilocytic astrocytoma or juvenile pilocytic astrocytoma or cystic cerebellar astrocytoma is a brain tumour that occurs more often in children and young adults (in the first 20 yrs of life) [1].

They usually arise in the cerebellum, near the brainstem in the hypothalamus and or optic chiasma but they may occur in any area where astrocytes are present including cerebral hemisphere and spinal cord.

The tumours are usually slow growing and benign. The neoplasms are associated with the formation of a single or multiple cysts and can be very large.

Case Presentation

In 2008, a 17 yrs old young lady was evaluated for headache & vomiting. She was diagnosed with pilocytic astrocytoma.

She underwent a parietal craniotomy & excision followed by adjuvant radiation 50Gy in 25F from 19/10/2008 to 19/11/2008 in Dhaka. (No preoperative imaging was available).

She was on follow up since then; In 2011 MRI Brain showed a small residual lesion. She was on follow up till January 2017. She started having headache blurring of vision & multiple episodes of vomiting for one month [2].

MRI showed right thalamic mass with extensive Perilesional edema more in favor of radiation necrosis. She was referred for stereotactic biopsy in Christian Medical College, Vellore.

She underwent multiple stereotactic biopsies over there which were negative for malignancy, possible radiation necrosis. MRI/MRS & Perfusion scan were repeated here [3]. The scan on January 2017 showed well defined lesion in the right parietal region (30 mm × 32 mm × 25 mm) with significant perilesional edema extending to occipital region. The lesion indents the right lateral wall of the lateral ventricle & third ventricle.

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She was started on oral predsolone. Then she was on follow-up again and the follow-up CT in 22/4/17 showed the size of the lesion was decrease to 29 mm × 31 mm.

As she was symptomatic there was a CT scan showed progression. So in Vellore CMC started oral chemotherapy capsule Temozolamide 150 mg/m² after admission over there from 06/05/17 to 10/05/17 & cycle-2 capsule Temozolamide 200 mg/m². She tolerated well. But in July 2017, her complaints of disorientation, restlessness & seizures were admitted in ICU of Square Hospital Dhaka.

She was found to have fluctuating level of consciousness & her GCS varies from 6-11 having convulsions & left hemiparesis [4].

She was Oncologist & Neurosurgeon there; both agreed she is for best supportive care only not for chemo or surgery.

She came to me in Alharamine Hospital Sylhet. I explained the prognosis and outcome and I signed her DNR.

Then we started in our Hospital Palliative chemo hormonal therapy Carboplatin 300 mg/m² every 21 days along with high dose of tamoxifen 20 mg po bd for one week the Increases weekly till target dose 100 mg bd. Cycle one was started on 15/06/17. After 1 cycle her level of consciousness was improved. After 3rd cycle she started to walk with support.

Internal CT Brain after 3rd showed marked decrease in perilesional edema but stable tumour size [5].

She finished 6 cycles on 02/10/17 then follow up CT scan on 25/10/17 showed mild decrease in mass.

She is on follow up now, apart from mild headache, decrease vision in right eye & residual paresis in left side she is doing better. Her last follow up CT scan on 09/09/18 showed stable disease.

She also had developed iatrogenic Cushing syndrome from prolong steroid which was tapered.

Discussion

Pilocytic astrocytomas occur at a rate 2 in 100,000 people mainly under 20 years of age. More than 80% astrocytomas are located in cerebellum are low grade and often cystic.

Most of the remainder is grade II astrocytomas [6].

Some of the astrocytoma involving the optic pathway shows gain chromosome 7q34 involving the BRAF locus [2,7].

In our case, a 17 yrs old female had surgery (complete removal) and radiation in 2008.

She was again seen in Christian Medical College and Hospital, Vellore in January 2017 as she complaints of head ache, vomiting, seizures and left sided weakness.

Her MRI was suggestive of either tumour recurrence in the thalamic region or radiation necrosis, she underwent twice stereotactic biopsy of the lesion, initial one was inconclusive and the last one on 22-04-17 was reported as necrosis and blood clots.

But the multidisciplinary team decided that this is possibly a recurrence of high grade glioma. Though they give her initially steroid for 2 months on which she responded initially but as her condition worsen they switched off to oral chemotherapy after admission. But after 2 cycles her conditions further worsen. Then she came to me received chemotherapy carboplatin (AUGC5) and high dose tamoxifen every 21 days cycle, She improved dramatically after first cycle, she got 6 cycles total, tolerated well, Her last CT brain on 9-9-18 showed stable disease.

Conclusion

Chemo hormonal therapy in recurrent pilocytic astrocytoma is a good option in palliative setting.

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