

Case Report

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Homoeopathic Treatment of Pituitary Adenoma: A Case Report

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ABSTRACT

Most pituitary adenomas are slow-growing and benign, which means they are not cancer and do not spread to other parts of the body. They generally have a slow but severe impact on vision due to compression of the optic nerves, optic chiasm and cavernous sinus. However, as they grow big they can put pressure on nearby structures, such as the nerves that connect the eyes to the brain and cause symptoms. Pituitary adenomas are the third most common intracranial tumor and arise from the pituitary gland. An individual case is presented in this paper with radiological evidence (MRI) of a large lobulated intrasellar mass (3.0 cm transversely, 3.5 cm craniocaudally and 2 cm anteroposteriorly) with supra-sellar extension is causing elevation of the floor of the 3rd ventricle of the brain. Pituitary macroadenoma and hemorrhagic foei, pituitary apoplexy, and pituitary adenomas were founded by different CT scan and MRI reports in different laboratories. The patient was treated with constitutional homoeopathic medicines – *Natrum muriticum-m/1*, 16 doses up to *Natrum muriticum-m/20*, 16 doses each from 26/04/2014 to 07/08/2017. Before treatment imaging was done several times from 6/04/2011 to 12/01/2012 showed complete resolution of the pituitary adenoma and during treatment 3 follow-up imaging was done on 25/07/2015 and 06/08/2017. This case report reviews the clinical presentation, homoeopathic management, and treatment of the major classification of pituitary adenomas and call attention to the need for repertorization in individualized homoeopathic prescription. It is hoped that if this type of clinical research continues in the future, homeopathy will have a breakthrough result and it's symptomatic medical treatment will play a beneficial role in the near future from the deadly evils of various types of chemotherapy, radiotherapy, or combined therapy.

Keywords: Pituitary adenoma, Homoeopathy, Apoplexy, MRI, Repertorization, *Natrum muriticum*

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INTRODUCTION

Most pituitary adenomas are slow-growing and benign, which means they are not cancer and do not spread to other parts of the body. However, as they grow big they can put pressure on nearby structures, such as the nerves that connect the eyes to the brain, and cause symptoms (Cleveland Clinic, 2020). Pituitary adenomas are the third most common intracranial tumor and arise from the pituitary gland (Pacific Pituitary Disorders Center, 2020). A pituitary adenoma is a neoplasm of the pituitary gland. These tumours are usually benign, and can be divided into two categories; non-functional tumours and hormone secreting tumours. As the tumour increases in size, it can compress surrounding structures, such as the optic chiasm. A lesion of the optic chiasm characteristically produces a visual defect known as a bitemporal hemianopia. A pituitary tumour can also cause excessive hormone production or insufficient hormone production (by destroying the normal glandular tissue) (Teachmeanatomy.info, 2020). The approach to the pathology of the pituitary gland and the sellar region is complex, because this area may be affected by many tumors and pseudo-tumoral lesions, and knowledge of multiple pathological conditions is therefore required. Tumors of the pituitary gland and sellar region account for approximately 15% of all brain tumors (Ostrom et al., 2015).

The vast majority of them are pituitary adenomas (PAs) (85%), followed by craniopharyngioma (3%), Rathke cleft cysts (2%), meningioma (1%), and metastases (0.5%). All other tumors are very rare lesions (Saeger et al., 2007) that imitate PAs in neuro-imaging studies, so that the final diagnosis should be made by the pathologist. The development and widespread use of neuroradiological, computerized tomography, and magnetic resonance imaging studies has resulted in the increasingly frequent diagnosis of clinically silent pituitary lesions.

A focal hypointensity inside the pituitary gland is considered abnormal and suggests an adenoma. Many pseudo-tumoral and tumoral types of lesions may affect the pituitary gland and the sellar region (developmental abnormalities, cysts, inflammatory, infectious, metabolic, and neoplastic diseases, and vascular disorders), reflecting the complex anatomy of this area. This review will focus on the histological diagnosis of the most common and relevant pituitary conditions (Tortosa & Webb, 2017). Diagnosing pituitary adenoma is via Magnetic Resonance Imaging (MRI) of Brain. It showed a large lobulated intrasellar mass (3.0 cm transversely, 3.5 cm craniocaudally and 2 cm anteroposteriorly) with suprasellar extension is causing elevation of the floor of the 3rd ventricle of brain. Evidences in support of individualized homoeopathic treatment of pituitary adenoma remains compromised; not a single case report could be identified after a careful search in different electronic databases.

DISCUSSION PITUITARY GLAND AND ADENOMAS

Anatomy

The pituitary gland is the about the size of a pea (two to eight millimeters in diameter) and weighs about 0.5 g. It is located within the sella turcica of the sphenoid bone at the base of the skull and is covered by a dural fold (diaphragm sellae). The pituitary gland is connected to the hypothalamus by the infundibular stem. A number of important structures surround the pituitary gland. The optic chiasm lies about 10 mm above it. The cavernous sinuses contain cranial nerves III, IV, VI, V1 (ophthalmic) and V2 (maxillary) and the internal carotid arteries are on either side of it. (Herse, 2014).

Physiology

The pituitary gland secretes nine hormones that regulate homeostasis. The anterior lobe of the pituitary gland secretes seven hormones: growth hormone (GH), thyroid stimulating hormone (TSH), adreno-corticotropin hormone (ACTH), beta-endorphin, follicle stimulating hormone (FSH), luteinizing hormone (LH) and prolactin (PL). The posterior pituitary secretes two hormones: vasopressin and oxytocin.

Pathogenesis

Pituitary tumors are thought to result from a single cell mutation followed by clonal expansion involving dysregulation of cell growth through either activation of an unknown oncogene or inactivation of a tumor suppressor gene.

Prevalence

Community-based cross-sectional studies report a prevalence rate of 77 to 94 cases per 100,000 persons (Fernandez et al., 2010; Daly et al., 2006). Most are microadenomas (less than 1.0 cm), which are often discovered incidentally during MRI scans and make up 15 per cent of intracranial tumors in autopsy studies and 22 per cent in radio-graphic studies. Macroadenomas (greater than 1.0 cm) are less common with a prevalence of about 0.2 percent (Burrow et al., 1981; Molitch & Russell, 1990; Ezzat et al., 2004). The prevalence of secreting functional adenomas is about five times that of null or non-functional adenomas.

Classification

Pituitary adenomas are initially classified according to their histological staining characteristics (eosinophilic, basophilic or chromophobes), their size (microadenoma, macroadenomas) or secretion of hormone (Table 1) (Manojlovic-Gacic et al., 2018).

Table 1: Various Classifications of Pituitary Adenoma

(A) Hardy's Classification of pituitary adenoma		(B) Knops' grading para sellar invasion	
Grade	Criteria	Grade	Criteria
Grade I	Microadenoma (<10mm diameter)	Grade 0	Adenoma does not extend the medial carotid line.
Grade II	Macroadenomas (>10 mm diameter) within sella	Grade 1	Adenoma extend the medial line, but does not reach the median line, so called "intercarotid" line
Grade III	>10 mm, focal sellar erosions, outside the sella	Grade 2	Tumour extends to the lateral aspect of ICAs.
Grade IV	Infiltrate sphenoid and cavernous sinuses, compress optic nerve, cranial nerve and/or invade adjacent brain.	Grade 3a	Tumour extends beyond lateral aspect of ICAs and into the superior cavernous sinus compartment
		Grade 3b	Tumour extends beyond lateral aspect of ICAs and into the inferior cavernous sinus compartment
		Grade 4	Tumour totally wraps around the intra cavernous carotid artery.

Symptoms of a pituitary adenoma

The symptoms of pituitary adenomas vary depending on the type of hormone released by the tumor or its mass effect on nearby structures. Having too many hormones can lead to certain disorders or syndromes, including:

- Gigantism in children and acromegally in adults from too much growth hormone (GH)
- Cushing's disease from too much adreno-corticotropin hormone (ACTH), which triggers the adrenal glands to make steroid hormones
- Hyperthyroidism from too much thyroid stimulating hormone (TSH)

General symptoms of pituitary adenomas include

- Headaches
- Vision problems (double vision, vision loss)
- Nausea or vomiting
- Changes in behavior, including hostility, depression and anxiety
- Changes in the sense of smell
- Nasal drainage
- Sexual dysfunction(male)
- Infertility
- Fatigue (extreme tiredness)
- Unexplained weight gain or loss
- Achy joints or muscle weakness
- Early menopause
- Changes in your monthly periods (women).

Diagnosis of pituitary adenomas

If any patient has suspected symptoms of a pituitary adenoma some procedure might be done such as-

1. At first have to review of patient's symptoms and medical background, and do perform physical examinations.
2. Lab tests might be done to check the hormone levels patient's blood.
3. An imaging test, such as an MRI or CT scan*which can show a growth on the pituitary. These tests can confirm the diagnosis of a pituitary adenoma.
4. If any patient noticed having problems with his sight, the doctor might also have to take a visual field test to check his eye function. Sometimes, pituitary adenomas are found by accident when an MRI or CT is being done for another condition.

Differential diagnoses

Differential diagnoses of pituitary adenoma include other brain tumors, such as craniopharyngioma, meningioma, glioma, bilateral tilted disc syndrome, optic nerve coloboma, nasal retinoschisis, nasal retinitis pigmentosa and masquerade syndromes (chronic retro bulbar optic neuritis, nutritional amblyopia, uncorrected refractive error, normal tension glaucoma and age-related maculopathy) (Cancer.Net. 2019).

Pituitary apoplexy

Pituitary apoplexy (stroke) is a potentially life-threatening condition associated with pituitary adenomas, with sudden onset hemorrhage around the pituitary gland, often from the pituitary tumor. The most common initial symptom is a sudden headache, associated with a rapidly worsening visual field defect or double vision caused by compression of the cranial nerves surrounding the gland. This is followed in many cases by acute metabolic symptoms caused by lack of secretion of essential hormones (predominantly adrenal insufficiency) (Herse, 2014).

Conventional Treatment

Pituitary adenomas are usually treated with surgery, medicine, radiation or a combination of these therapies.

Surgery

Doctors can often remove the tumor with endoscopic surgery, reaching the pituitary using very small tools and a camera inserted in a small opening made through the nose and sinuses. This approach is called the transsphenoidal technique. In cases where this approach cannot be used, the doctor must open the skull to get to the pituitary and the adenoma.

Conventional medical management

With some types of pituitary adenomas, the tumor can be treated with medication that shrinks the tumor and relieves symptoms.

Radiation

Radiation therapy uses high-energy X-rays to kill cancer cells and shrink tumors. A special form of radiation therapy, called stereotactic radio surgery, uses a high dose of radiation aimed precisely at the adenoma from more than one direction to keep the tumor from growing (Cleveland Clinic, 2020).

Case Record

A male govt. service holder patient, aged 48 years, address-River Research institute, Faridpur, Bangladesh came to outpatient department of a reputed Homoeopathic Hospital in Dhaka on July 26, 2014 (OPD, No. 8320/14) with complaints throbbing pain in occipital and parietal region started along with vision problems, Unexplained tiredness and fatigue, vertigo and mild fever since 6 months. He was diagnosed a case of pituitary apoplexy in addition to pituitary adenoma. He was feeling sudden loss of muscular control. It was worse with walking during morning and better by lying down. Sometimes electrolyte imbalance was found. All the time he had trembling of arms and hands and cramps in muscles.

History of Present Complaints

According to the statement of the patient, he was reasonably well 6 months back. Then he felt throbbing pain in occipital and parietal started along with vision problems aggravates during walking and better by lying down. Gradually, for last 6 months he also noticed unexplained tiredness and fatigue, vertigo and mild fever. Occasionally nausea and vomiting was present. History of this patient was taken conventional treatment from 06/04/2011 to 25/07/2014 without any remarkable improvement.

Chief complaints with duration

1. Throbbing pain in occipital and parietal region last for 6 months.
2. Double vision, vision loss.
3. Unexplained tiredness and fatigue.
4. He was feeling as if everything was rotating.

General Modalities

Aggravation: Walking, after meal

Amelioration: Lying down

Past History

H/o. Head injury at the age of 25 years, treated by allopathic medicine.

H/o. Warts cured by homoeopathic medicine.

H/o. Suppression of skin disease.

Family History

Father: Died by asthma, Mother: Osteoporosis

Physical General Symptoms

Appetite:-Poor

Taste-bitter

Tongue: white coated

Salivation: profuse

Odor: offensive

Thirst: thirsty for large quantity of water.

Habit:-. Tea

Bowel: irregular, scanty, blackish

Urine: Normal

Sleep: insomnia

Perspiration: Profuse when headache present.

Food: Desire: for salt. Sweet, Aversion: potatoes.

Thermal

Heat/Cold Relation: Hot patient but from illness patient became chilly.

Bathing: regular with hot water

Weather/Season: Aversion to rainy season and winter.

Fan/AC: Fan – Average but AC- Aversion.

Sun: Average

Getting Wet: Complain get aggravated

Covering: desire for

Mental General Symptoms

Mentality -Reserved

Anger- violent while it is against his opinion.

Consolation: Aggravation.

Weeping tendency- (+)

Fastidiousness – (+)

Dream-About his children.

Memory-weak, Forgetful

Fear-of dark

Suspicious-not specific.

Company –Desire.

Sexual debility –present.

On examination

Temp -98F.

Pulse Rate 90/min.

Bp-100/70 mm of Hg

Respiratory Rate-16/min

Height-5'5"

Weight-65kgs.

Pallor-absent

Anemia- ++

Jaundice- absent.

Edema-absent

Cyanosis- +

Clubbing – absent

Koilonychias –absent

CASE PROCESSING

Miasmatic Background

Fundamental Miasm: Predominantly Sycotic disorder.

Dominant Miasm: Psoric and Syphilitic.

Symptoms Analysis and evaluation

1. Throbbing pain in occipital and parietal.
2. Headache in the morning during walking.
3. Sudden loss of muscular control or sensation.
4. Double vision.
5. Weak memory with forgetfulness.
6. Reserved personality.
7. Violent anger while it is against his opinion.
8. Fear of darkness.
9. Dreams always his children.
10. Thermally she was very chilly.
11. White coated tongue and mapped.
12. Profuse salivation and foul odour.
13. Craving for salt and salt things.
14. Sexual dysfunction.

Repertorization

After analyzing and evaluation the symptoms of the case, the characteristic mental, physical generals and particulars were considered for framing the totality. The case was repertorised with the help of Edu-Homopathy software.

Table 2: Repertorial Totality

[PH] [Phatak A-Z]Head:Pain:Throbbing, pulsating: (1)
[KT] [Head]Pain, headache in general: Morning: (2)
[KT] [Generalities]Apoplexy: (1)
[BR] [Eyes]Vision:Diplopia - (double vision): (2)
[BN] [Mind]Memory,: Poor, weak, forgetful, etc.: (4)
[KT] [Mind]Reserved: (1)
[KT] [Mind]Anger, irascibility(see irritability, quarrelsome):Violent: (1)
[CO] [Mind]Fear: Dark: (1)
[CO] [Mind]Dreams: Child, children: About: (1)
[KT] [Chill]Chilliness (see generalities, cold): (2)
[BN] [Mouth and throat]Tongue: Coated (not clear):White: (3)
[KT] [Stomach]Desires: Salt things: (3)
[KT] [Mouth]Mapped tongue: (2)
[BR] [Male Sexual System]Spermatorrhoea (sexual debility, deficient physical power, nocturnal pollutions): (3)

Repertorization

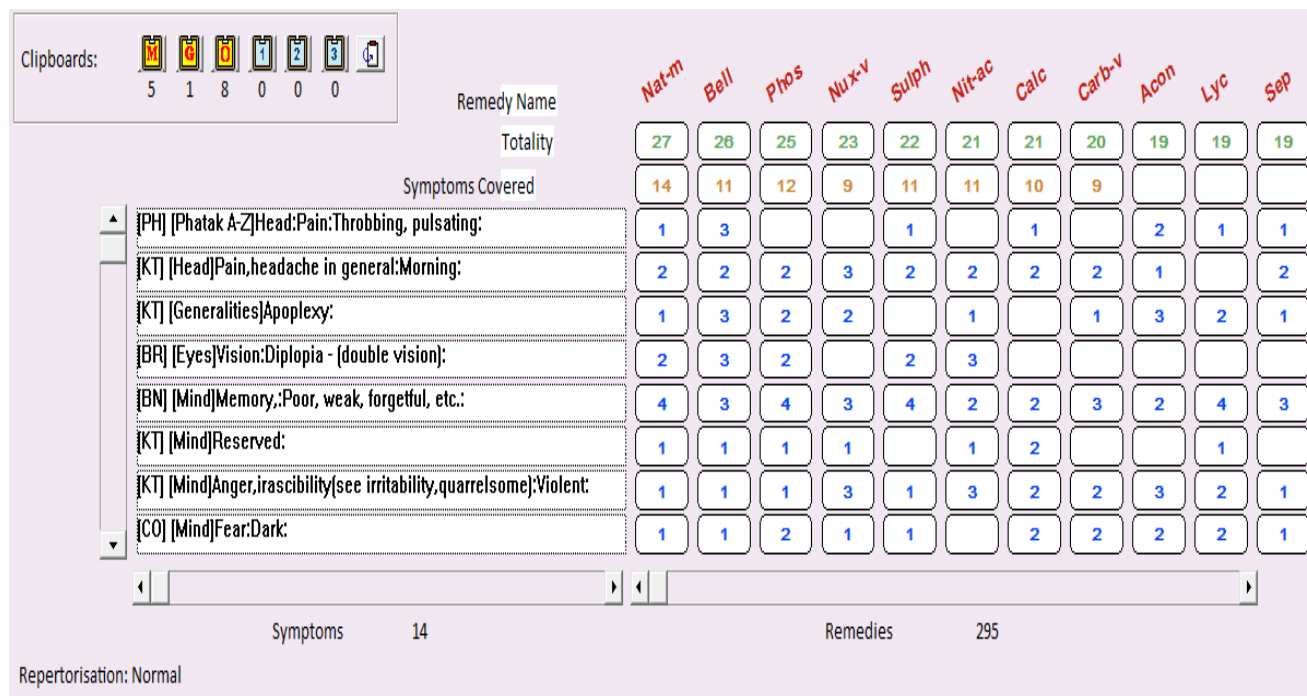


Figure 1: Repertorization for Pituitary adenoma symptoms by Edu-Homeopathy

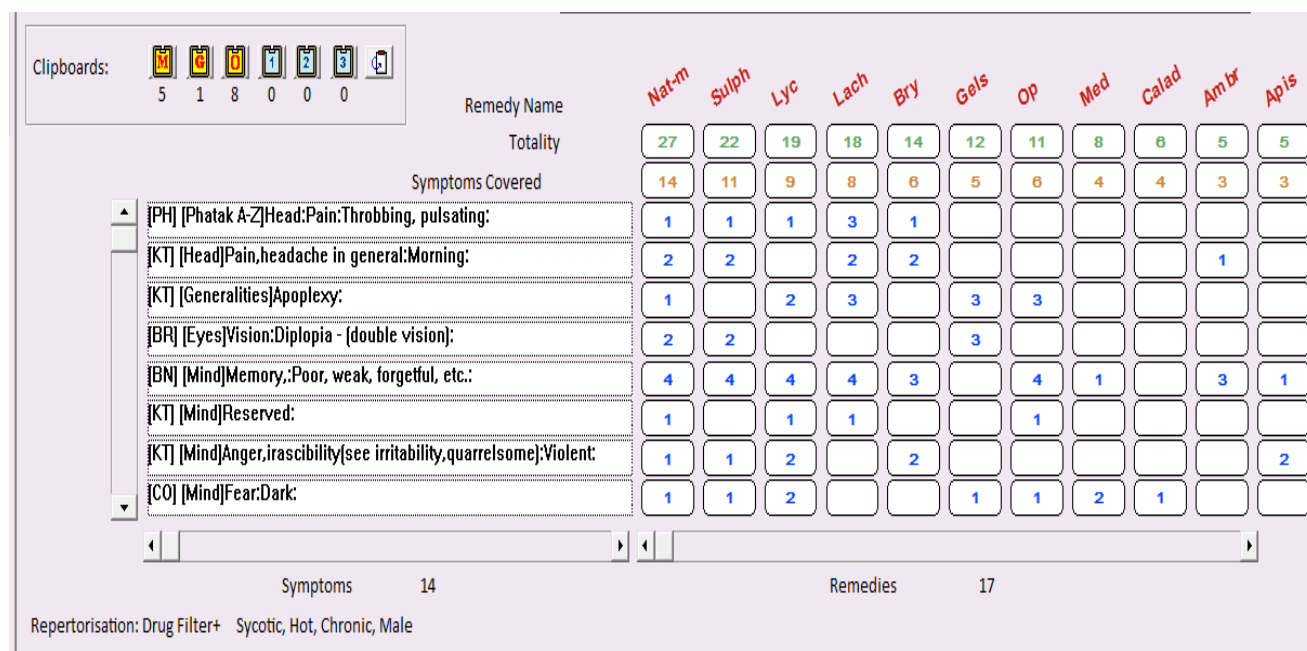


Figure 2: Repertorization after drug filter (using sycotic miasm, Hot patient, chronic case and male patient was considered) for Pituitary adenoma symptoms by Edu Homeopathy

Group of remedies with drug differentiation

1. **Natrum muriticum:** Hot remedy, yet there is a great liability to take cold (Kent) and having characteristic mental & physical symptoms. It is one of Hahnemann’s topmost constitutional, a very long and deep acting remedy. Deficiency of this salt produces malnutrition, emaciation and anemia. (Boerick & Dewey). It covers all the three miasms viz; Psora, Syphilis and mostly Sycosis.
2. **Belladonna:** Chilly remedy and tuberculous disposition, great liability to take cold; sensitive to draft of air are not matching although all characteristic mental and physical symptoms makeup. Apparently, this remedy is acute in

nature. Need to say, in case of, as like neuralgic pains that come and go occasionally have to use this medicine to relief periodic symptoms of this patient.

3. *Phosphorus*: Chilly remedy, all symptoms are not matched at mentally and physically.
4. *Nux vomica*: Though it is chilly remedy but all physical symptoms are not found in this remedy.
5. *Sulphur*: Hot remedy but all symptoms are not matched at mentally and physically.

SELECTED REMEDY

Natrum muriticum

Criteria for potency selection for this patient\

1. Susceptibility: Severe.
2. Nature of diseases: Acute on chronic.
3. Miasm: Dominant& fundamental miasm; Psora & Tubercular, fundamental-sycotic.
4. Seat of diseases; Deep.
5. General condition of patient; Weak, anemic fatigue.
6. History of suppression: skin diseases.
7. Repetition: Low potency may be repeated but higher potencies are given in single dose.
8. Diathesis: Scrofulous.
9. Constitution; Oxygenoid constitution.
10. Body building: Lean and thin.

Prescription

After considering Totality of Symptoms H/O head injury, prescribed *Arnica montana 1M* (1oz) , 3 does 3 times for 1 day in empty stomach and from following day placebo-m/1 (4oz) ,m/2(4oz),m/3(4oz),m/4(4oz) total 64doses in aqua dist, one dose for 1 time in empty stomach. But after completion, to confirm the prescribed medicine, the case was retaken, followed by evaluation & repertorization.

Timeline

Patient came to the Out Patient department on July 26,2014with radiological image of Brain which was done on several times from April 9, 2011 to January12, 2012. Following the table is shown, in different time, the patient had done his MRI report for follow up and for clinical information before treatment and during treatment.

Table 3: MRI Reports of different time and follow up and clinical information

Date	Report name	Clinical information	Comments /impression	Figure number
06/04/2011	CT Scan of Brain	Headache and vomiting.	Pituitary macroadenoma and hemorrhagic foei.	3
09/04/2011	MRI of Brain	Sudden onset of severe headache and vomiting.	Features are suggestive of pituitary apoplexy.	4
30/07/2011	MRI Report of Brain	For follow up	Suspected Pituitary adenoma. Suggested: MRI of pituitary gland with contrast and/or clinic pathological correlation.	5
12/01/2012	Magnetic Resonance Imaging	Repeated vertigo, tendency to fall and Generalized weakness of the body for 02 weeks.	Mild enlargement of the pituitary gland Please correlates with hormone level to exclude the mere possibility of microadenoma (Though apparently no such lesion is noticed within the parameter of MRI scan).	6
25/07/2015	Magnetic Resonance Imaging	1. Episodic headache, vertigo& tendency to fall since 03 months. 2. A case of pituitary adenoma. 3. To compare with previous MRI on 12.01.12 (report).	1. Pituitary adenoma, with evidence of resolution of the lesion since earlier MRI on12.01.12. Adv; Other adjuvant examination for further evaluation, please. 2. Bilateral maxillary sinusitis.	7
03/04/2016	MRI of Brain	Follow up	MRI feature consistent with normal findings of brain.	8
06/08/2017	MRI of Brain	Follow up	No remarkable abnormality detected in MRI of brain.	9

শ্রী সুপার ডায়াগনস্টিক ল্যাব
 এ, নূর সুপারকোর্টে, কবিশাল রোড, পশ্চিম খাবামপুর, ফরিদপুর।
মেডিকেল কলেজ হাসপাতাল গেট সংলগ্ন
 মোবাইল : ০১৭১১৪৫৫৮৮১, ০১৭১৮-৭০২৬৫৩

ID No:	227	Date:-	06.04.11
Patient Name:	Md. Ayub Ali	Age:-	42Yrs.
Ref. By Dr.	FMCH	Sex:-	Male

CT scan Report of Brain

TECHNIQUE: Pre and post contrast CT scan of brain was performed taking serial cuts 5mm & 7mm interval in axial plane also 3mm along sella turcica.

Clinical History: 1) Headache for 2 days.
2) Vomiting 7 times.

Result:

- The sella turcica is widened.
- A soft tissue opacity is seen in the sellar and suprasellar regions.
- Slightly hyperdense foci within the lesion representing haemorrhagic foci.
- Ventricles and basal cisterns are unremarkable.
- No shift of midline structure is detected.
- Sella, supra-sella & para-sellar regions are unremarkable.
- Haemorrhagic fluid density is noted in the sphenoidal sinus suggestive of haemosinus.
- C-P angles on both sides are clear.
- Post contrast study shows ring enhancement around the lesion.
- Sellar erosion is seen on the left side. No sphenoidal extension is seen.


Impression:

Pituitary macroadenoma with haemorrhagic foci.

Dr. Salma Shah Nawaz Parvin

DR. SALMA SHAHNAWAZ PARVIN
 M.B.B.S (DMC), MD (Radiology & Imaging)
 Asst. Professor, Dept. of Radiology & Imaging
 Faridpur Medical College & Hospital.

Figure 3: CT SCAN OF BRAIN was done on 06/04/2011

**পপুলার ডায়াগনস্টিক সেন্টার লিঃ**
POPULAR DIAGNOSTIC CENTRE LTD.
House # 16, Road # 2, Dhanmondi R/A, Dhaka-1205, Bangladesh
Tel : 9669480, 01553341060-1, Fax : 8611634, E-mail : popular@popularbd.com

ID No	270(D101343)	Date : 09.04.2011
Name of the Patient	MD AYUB ALI	Age : 42 years
Referred by	ASSTT.PROF. MOHAMMAD HOSSAIN. MS(N).	

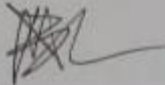
MRI OF BRAIN

Technique: Pre and post contrast multiple imaging sequences were realized in different planes.

Clinical information: Sudden onset of severe headache and vomiting.

Findings:
A large lobulated intrasellar mass (3.0 cm transversely, 3.5 cm craniocaudally & 2 cm anteroposteriorly) with suprasellar extension is causing elevation of the floor of the 3rd ventricle. On T1WI the mass is hyper to isointensity. On T2WI the mass is predominantly hyperintense. Following contrast agent administration the mass shows no significant contrast enhancement. Rest of the cerebral and cerebellar parenchyma appears normal.

Impression:
Features are suggestive of pituitary apoplexy.



Dr. Mohammad Zakir Hussain
MBBS, PhD, Fellow AIEJ
Consultant Radiologist

Figure 4: MRI OF BRAIN was done on 09/04/2011

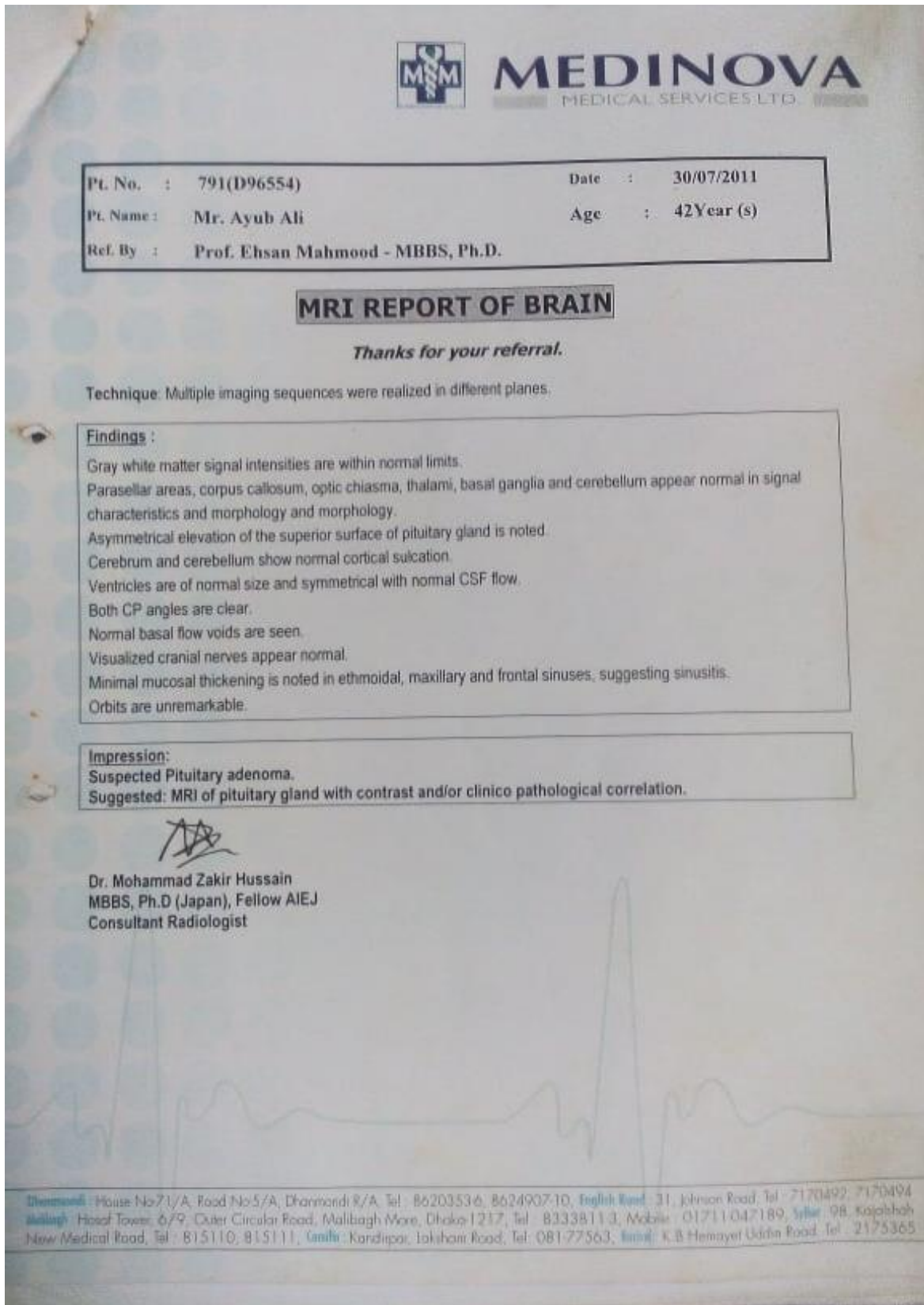


Figure 5: MRI OF BRAIN was done on 30/07/2011

● HOUSE NO: 46, ROAD NO: 9/A, SATMASJID ROAD
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IBN SINA DIAGNOSTIC & IMAGING CENTER

MAGNETIC RESONANCE IMAGING

ID. No.	: D25398	Date	: January 12, 2012
Patient's Name	: MD. AYUB ALI	Part Scanned	: Brain
Age	: 48 year(s)	Sex	: Male
Refd. by	: DR. M. N. ISLAM.		

CLINICAL INFORMATION:
Repeated vertigo, tendency to fall and Generalized weakness of the body for 02 weeks.

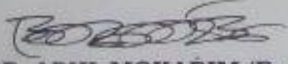
TECHNIQUE:
FLAIR axial; FS T2WI axial, coronal; SE T1WI axial, sagittal; Contrast- T1WI, sagittal, axial & coronal.

FINDINGS :*

1. **Pituitary region:**
 - a. Sagittal pre & post contrast T1WI show, minimal enlargement of the homogeneously enhanced intrasellar pituitary gland (especially adenohypophysis) that measures less than 10 mm in height.
 - b. No hypointense lesion is seen within minimally hyperplastic pituitary gland.
 - c. T2WI shows, sign of hyperdense CSF accumulation at sella (empty sella).
 - d. The infundibular stalk is normal in course, and the pituitary gland is not thinned or flattened. No sign of herniation of optic chiasma into sella on sagittal T1WI.
 - e. No intra, para or suprasellar mass.
2. No evidence of intra or extra axial hematoma, contusion, mass, infarct, atrophic change, abnormality in gray-white matter interface or in the appearance of sulci & gyri.
3. Ventricles and basal cisterns (CSF space) are unremarkable. No evidence of contralateral shifting of mid-line structures.
4. Posterior fossa: No lesion at brain stem, cerebellum or at CP angle.
5. Orbits: No evidence of intra or extra ocular mass/hematoma or any other intra or extra conal soft tissue lesion. Rectus muscles & optic nerves appear to be unremarkable.
6. PNS : Paranasal sinuses are appearing to be clear. Hypertrophied bilateral nasal turbinates with narrowing of nasal passages.

IMPRESSION:
(Mild enlargement of the pituitary gland.) Please correlate with hormone level to exclude the mere possibility of microadenoma (though apparently no such lesion is noticed within the parameter of MRI scan).

With compliments for kind referral,



DR. ABUL MOKARIM (Ex. Major)
MBBS (DU), DTM (Nagasaki), Ph.D. (Japan).
Fellow-Resident, Nagasaki University Hospital
Chief Consultant, Ibn Sina Medical Imaging Center

* This is only a professional opinion and not a diagnosis, hence it should be clinically correlated.

Transcribed by Obayed Ullah

Figure 6: MRI OF BRAIN was done on January 12, 2012

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 ● www.ibnsinatrust.com

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MAGNETIC RESONANCE IMAGING

ID. No.	: B37717	Date	: Jul 25, 2015
Patient's Name	: Mr. Ayub Ali	Part Scanned	: Brain
Age	: 53 year(s)	Sex	: MALE
Refd. by	: Asst Prof. Dr. Md. Shafiul Alam, MBBS, FCPS, MS.		

CLINICAL INFORMATION:

1. Episodic headache, vertigo & tendency to fall since 03 months.
2. A case of pituitary adenoma.
3. To compare with previous MRI on 12.01.12 (report).

TECHNIQUE:
FLAIR axial; FS T2WI axial, coronal; SE T1WI axial, sagittal. Contrast- T1WI, sagittal, axial & coronal.

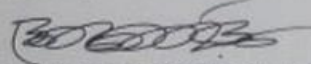
FINDINGS:

1. No evidence of intra or extra axial hematoma, contusion, mass, infarct, abnormality in gray-white matter interface or in the appearance of sulci & gyri.
2. Ventricles and basal cisterns (CSF space) are unremarkable. No evidence of contralateral shifting of mid-line structures.
3. **Pituitary region :**
 - a. Enlarged pituitary gland / adenoma is reduced to normal in size since earlier MRI on 12.01.12.
 - b. No para, intra or suprasellar mass.
4. Posterior fossa: No lesion at brain stem, cerebellum or at CP angle.
5. No mass or lesion is noticed in the initial course of CNs.
6. Orbits : No evidence of intra or extra ocular mass/hematoma or any other intra or extra conal soft tissue lesion. Rectus muscles & optic nerves appear to be unremarkable.
7. Cavernous sinuses are clearly visible. No mass / lesion is noticed at central-paracentral skull base.
8. PNS : On T2WI hyperintense mucosal thickening is noticed at bilateral ethmoidal sinuses. Hypertrophied bilateral nasal turbinates with narrowing of nasal passages.

IMPRESSION:

1. **Pituitary adenoma, with evidence of resolution of the lesion since earlier MRI on 12.01.12.** Adv. Other adjuvant examination for further evaluation, please.
2. **Bilateral maxillary sinusitis.**

With compliments for kind referral,




DR. ABUL MOKARIM (Ex. Major)
 MBBS (DU), DTM (Nagasaki), Ph.D. (Japan).
 Fellow-Resident, Nagasaki University Hospital
 Chief Consultant, Ibn Sina Medical Imaging Center

* This is only a professional opinion and not a diagnosis, hence it should be clinically correlated.

Transcribed by Rafiq Ullah

Figure 7: MRI OF BRAIN was done on July25, 2015

**NATIONAL INSTITUTE OF NEUROSCIENCES & HOSPITAL**
SHER-E-BANGLA NAGAR, DHAKA-1207
Department of Neuro Radiology & Imaging
Tel: 9145908, 9137305, 9112709, PABX-215

Patient's Name:	Md. Ayub Ali	Age: 46Y	Sex: M
Name of the Examination:	MRI of brain	ID No: 0827/16	Date: 03/04/2016

Protocol: Non- Contrast: Sagittal, Coronal, Axial, T1, T2, FLAIR.

Findings:

- No focal or diffuse lesion is seen at the cerebrum, cerebellum and brain stem having normal gray white matter signal intensities on T1W1 and T2W1 images.
- Sella, suprasellar & parasellar regions normal.
- Ventricles and extra ventricular CSF spaces are unremarkable.
- No shift of midline structures detected.
- No lesion detected in CP angle and IAM regions.

Comment: MRI feature consistent with normal findings of brain.

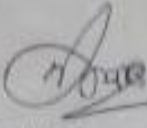


(Dr. Mst. Nazmun Nahar)
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Associate Professor
National Institute of Neurosciences & Hospital
Sher-E-Bangla Nagar, Dhaka-1207

Figure 8: MRI OF BRAIN was done on 03/04/2016


NATIONAL INSTITUTE OF NEUROSCIENCES & HOSPITAL
SHER-E-BANGLA NAGAR, DHAKA-1207
 Department of Neuro Radiology & Imaging
 Tel: 9145908, 9137305, 9112709, PABX-215

Patient's Name: Ayub Ali	Age: 47Y	Sex: M
Name of the Examination: MRI of brain	ID No: 407/17	Date: 06/08/2017

Protocol: Contrast & non-Contrast: Sagittal, Coronal, Axial, T1, T2, FLAIR.

Findings:

- No focal or diffuse lesion is seen at the cerebrum, cerebellum and brain stem having normal gray white matter signal intensities on T1W1 and T2W1 images.
- Sella, suprasellar & parasellar regions normal.
- Ventricles and extra ventricular CSF spaces are unremarkable.
- No shift of midline structures detected.
- No lesion detected in CP angle and IAM regions.
- *After IV contrast no remarkable abnormal enhancement noted.*

Comment: No remarkable abnormality detected in MRI of brain.

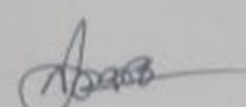

(Dr. Mst. Nazmun Nahar)
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 Sher-E-Bangla Nagar, Dhaka-1207

Figure 9: MRI OF BRAIN was done on January 06/08/2016

FARIDPUR MEDICAL COLLEGE HOSPITAL 20
PATHOLOGY DEPARTMENT
FARIDPUR.

I.D. No. B Date: 09.01.18

Name of the Patient Md. Ayub Ali Age 48 yrs

Ward No. _____ Bed No. _____ Reg. No. _____

Referred by. _____

Nature of Examination. _____ S. Electrolytes _____

S.ELETROLYTE

Test	Result	Range
S. Potassium (K ⁺)	4.81 mmol/L	3.5-5.0mmol/L
S. Sodium (N ⁺)	146.0 mmol/L	136-148 mmol/L
S. Chloride (Cl ⁻)	105.0 mmol/L	98-107 mmol/L

Lab In-charge _____ Pathologist/Lab Personnel [Signature]
09.01.18

COMMENTS :

Figure10: Last follow up for Serum electrolyte on 09/01/2018

PRESCRIBED REMEDY

Natrum muriticum was prescribed in fifty millesimal potencies.

Table 4: Follow up and treatment (from 26/07/2014 –07/08/2017)

Date	Complaints/clinical feature	Prescribed Remedy with Advice
26/07/2014	At first, on the basis of P/H of head injury, headache, apoplexy, double vision, weak memory and forgetfulness, chilliness, anemia, white coated tongue, nausea and vomiting and sexual debility, We would have to consider of this pituitary adenoma patient to prescribe by Arnica Montana 1M with Placebo m/1. MRI report shows Pituitary adenoma and Bilateral maxillary sinusitis on 25.7.2015.	1. <i>Arnica Montana-1M</i> (1oz distilled water) 3 dose for 1 day. 2. <i>Placebo-m/1</i> (4oz), m/2(4oz), m/3(4oz), m/4(4oz) for 4×16=64 days. 1 tea spoonful in daily morning in empty stomach after 3/10 stroke. Advice: 1. Take nutritional diet. 2. 3% Nacl intake 1 tea spoonful while feeling severe weakness / unconsciousness.
15/10/2014	Headache occasionally not every morning, Apoplexy disappear, Double vision-present, weak memory with forgetfulness, weak memory and forgetfulness, chilliness – absent, anemia, weakness, tongue-mild coated, nausea and vomiting –absent and sexual debility,	1. <i>Natrum muriticum</i> m/1(4oz), m/2(4oz), m/3(4oz), m/4 (4oz) for 64 days. 1 tea spoonful in daily morning in empty stomach after 3/10 stroke. 2. <i>Placebo-m/5</i> (4oz), m/6(4oz), m/7(4oz), m/8(4oz) for 64 days. 1 tea spoonful in daily morning in empty stomach after 3/10 stroke.
20/01/2015	Headache–throbbing occasionally attacked very severe ,not every morning Double vision-present, Weak memory with forgetfulness, weak memory and forgetfulness, anemia, weakness, tongue-clear, moist, nausea and vomiting–reappearing occasionally and sexual debility,	1. <i>Natrum muriticum-m/5</i> (4oz), m/6(4oz), m/7(4oz), m/8(4oz) for 64 days. 1 tea spoonful in daily morning in empty stomach after 3/10 stroke. 2. <i>Placebo-m/9</i> (4oz), m/10(4oz), m/11(4oz), m/12(4oz) for 64 days. 1 tea spoonful in daily morning in empty stomach after 3/10 stroke. 3. <i>Belladonna-30</i> (when headache is severe only one dose with pill).
5/04/2015	All the physical and mental symptoms were reappeared, but not severe.	1. <i>Natrum muriticum -m/9</i> (4oz),m/10(4oz), m/11(4oz),m/12(4oz) for 64 days. 1 tea spoonful in daily morning in empty stomach after 3/10 stroke. 2. <i>Placebo-m/13</i> (4oz), m/14(4oz), m/15(4oz), m/16(4oz) for 64 days. 1 tea spoonful in daily morning in empty stomach after 3/10 stroke. 3. <i>Belladonna-30</i> (when headache is severe only one dose with pill). Adv: MRI of Brain.
26/07/2015	All the symptoms were comparatively disappearing than previous.	1. <i>Natrum muriticum-m/13</i> (4oz), m/14(4oz), m/15(4oz), m/16(4oz) for 64 days. 1 tea spoonful in daily morning in empty stomach after 3/10 stroke.

		2. <i>Placebo-m/17(4oz),m/18(4oz),m/19(4oz), m/20(4oz)</i> for 64 days. 1 tea spoonful in daily morning in empty stomach after 3/10 stroke. 3. <i>Belladonna-30</i> (when headache is severe only one dose with pill).
03/11/2015	Headache – occasionally but not severe. vision-Normal, memory-good, anemia and weakness were disappear, tongue-clear, moist, sexuality-good,	1. <i>Natrum muriticum-m/17(4oz), m/18(4oz), m/19(4oz), m/20(4oz)</i> for 64 days. 1 tea spoonful in daily morning in empty stomach after 3/10 stroke. 2. <i>Placebo-m/21(4oz), m/22(4oz), m/23(4oz), m/24(4oz)</i> for 64 days. 1 tea spoonful in daily morning in empty stomach after 3/10 stroke. 3. <i>Belladonna-30</i> (when headache is severe only one dose with pill).
04/04/2016	MRI feature consistent with normal findings of brain on 03/04/2016. And Patient had no complained on that day.	1. <i>Placebo-m/25(4oz)</i> for 16 days. 1 tea spoonful in daily morning in empty stomach after 3/10 stroke.
07/08/2017	No remarkable abnormality detected in MRI of brain.	1. <i>Placebo-m/25(4oz)</i> for 16 days. 1 tea spoonful in daily morning in empty stomach after 3/10 stroke. Advice: To check electrolyte 3/4 month's interval.

Discussion

Homoeopathic Treatment of Pituitary adenoma of Brain, a case report over the patient who was suffering from throbbing headache with double vision noted through Magnetic Resonance Imaging (MRI) of Brain. Individualized homoeopathic medicines were prescribed on 'totality of symptoms' with the help of different repertory of Edu-Homopathy software. The patient was treated with constitutional homoeopathic medicines – *Natrum muriticum* m/1, 16 doses up to *Natrum muriticum* m/20, 16 doses each. Follow-up imaging showed complete resolution of the pituitary adenoma. Individualized homoeopathic medicine selected using repertory seemed to be promising treatment for Pituitary adenoma. This case is presented in this paper with radiological evidence (MRI) of a large lobulated intrasellar mass (3.0 cm transversely, 3.5 cm craniocaudally and 2 cm anteroposteriorly) with suprasellar extension is causing elevation of the floor of the 3rd ventricle of Brain. The patient was treated with a single constitutional homoeopathic medicine (Table 4). Before treatment imaging were done several time from 9/04/2011 to 12/01/2012 showed complete resolution of the pituitary adenoma and during treatment 3 follow-up imaging was done on 25/07/2015, 03/04/2016 and 06/08/2017 (Table 3). This study is representative of individualizing homoeopathy only. In a broader interpretation of the law of similar, remedy is selected for totality of symptoms both typical of the predominating constitutional and from combined repertory by Edu-Homoeopathy software. There was no violation of routine homoeopathy practice. The medicine was prescribed in fifty millesimal potencies. *Natrum muriticum* may be needed to cure the most terrible headache, but do not give it during a severe attack at risk of a fearful aggravation. Give its acute *Bryonia album* for immediate pain and to palliate; and the curative later on when attack is over *Natrum muriticum* should never be given during fever paroxysm (J. H Allen), cannot be often repeated in chronic cases without an inter-current remedy. Homoeopathic medicine selected with the help of repertory provided promising aid in treatment of Pituitary adenoma. The duration of timeline was one of the major limitations in this case study. Another limitation was the objective symptoms. Totality of symptoms and Evaluation of symptoms was done only on the basis of subjective entity. There was only Magnetic Resonance Imaging (MRI) evolution serve as evidence for before and after treatment. Evidences in support of individualized homoeopathic treatment of pituitary adenoma remains compromised; not a single case report could be identified after a careful search in different electronic databases. The data of this case report may also be helpful in the planning of further development of case series. It also helps to prove that constitutional homoeopathic treatment can possible to change the pathological entity. This case report suggests homoeopathic treatment as a promising complementary or alternative therapy and emphasizes the need of repertorization in individualized homoeopathic prescription. It would require specific instruments for more detailed assessment.

CONCLUSION

In this case the pituitary adenoma was cured after administering *Natrum muriticum* with increasing potency by 50 millesimal scale. At first, Arnica Montana 1M, a centesimal higher potency was prescribed for H/O patient head injury, a predisposing cause of pituitary adenoma before applying *Natrum muriticum* which was selected by Edu-Homoeopathy, a combine software Repertory. Sometimes Belladonna was given as an inter-current, acute on chronic in nature, polychrest remedy for headache. In this cases patient have shown symptomatic relief along with complete cured after prescription of individualized homeopathic treatment. This case report of Pituitary adenoma with psychical complaints responded to homeopathic constitutional medicine *Natrum muriticum* and remained in remission after cessation of treatment till date. Homeopathy may be a useful new treatment modality for Pituitary apoplexy in addition to Pituitary adenoma and further studies and clinical trials are required to establish whether it may be efficacious in the therapy of this type of disorder. This case report suggests homeopathic treatment as a promising complementary or alternative therapy and emphasizes the need of repertorization in individualized homeopathic prescription. Totality of symptoms gives the clue about the selection of medicine. At this point, repertorization is needed for confirming the selection of remedy and treating the cases in better way. So these cases shows that homeopathic medicines act effectively if selected on the basis of symptoms similarity. Hopefully, if this kind of clinical research continues in the future, a groundbreaking result in homeopathy will come.

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Author Contributions

All authors have reviewed and approved the manuscript prior to submission. Nur-E-Alam Rasel conceptualized the need for study, repertorization, contributed to data analysis, data interpretation, and drafting the manuscript for submission. Md. Sofiqul Alam and Md. Mostafizur Rahman Siddique also conceptualized the need for study. They edited and contributed to significant revisions of the manuscript as submitted. Narottam Debnath and Md. Jahangir Alam fully read the manuscript, provided significant edits and provided new content based in their experience as homeopathic individuals. Md. Shahi Emran Hossain and Rumana Afroze Rume assisted in the design of pituitary adenoma friendly language and interpretation of the discussion and conclusion. All authors read, critically revised and approved the final manuscript.

Ethical approval

Not applicable.

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