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INDIVIDUALIZED HOMOEOPATHIC MANAGEMENT OF POST-STROKE COMPLICATION: AN EVIDENCE BASED CASE REPORT

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ABSTRACT:

Background: Stroke is a clinically defined syndrome of acute, focal neurological deficit attributed to vascular injury (infarction, haemorrhage) of the central nervous system. Stroke is the second leading cause of death and disability worldwide. In this case a 52-year-old male patient visited our out clinic with the complaints of left sided weakness of limbs, gradual loss of memory and diminished muscle power and involuntary urination.

Methods: After detailed case-taking and repertorization, the individualized homoeopathic medicine, *Nitricum acidum* 200C was given and after that, it was repeated with gradual ascending potency considering the reaction of the patient at each visit. After, about one and half years of homoeopathic treatment, the patient achieved a significant improvement in terms of recovering his lost muscle power and quality of life etc. The improvement has been

showed through photographic images of the imaging radiology report taken before and after the treatment demonstrating a positive role of individualised homoeopathic treatment in a case of post-stroke complications along with headache.

Results: Modified Naranjo Criteria for Homoeopathy tool was used to assess the causal relationship between homoeopathic intervention and clinical outcome. The MONARCH score (+9) suggested that the clinical improvement was likely attributable to the homoeopathic treatment.

Conclusions: This individual case study shows the usefulness of individual homoeopathic treatment in case of post stroke complications. However, more studies and evidence-based clinical verification is required to establish the efficacy of homoeopathy in such cases.

KEYWORDS: Post-stroke complications, Homoeopathy, *Nitricum acidum,* Monarch.

INTRODUCTION:

The term "stroke" (Cerebrovascular accidents or apoplexy) is applied to acute severe manifestations of cerebrovascular disease. It causes both physical and mental crippling. WHO defined stroke as “rapidly developed clinical signs of focal disturbance of cerebral function; lasting more than 24 hours or leading to death, with no apparent cause other than vascular origin [1]. It is a sudden onset focal cerebral dysfunction due to vascular disease of the brain being the third most common cause of disability in the world after ischaemic heart disease and congenital disorders. In the UK about 150 per 100 000 people have a stroke each year. [2]. It is the third most common cause of death (11% of all deaths in the UK) and the leading cause of adult disability worldwide. Although data are difficult to obtain, approximately two-thirds of the global burden of strokes is in middle and low-income countries. Stroke rates are higher in Asian and black African populations than in Caucasians. Stroke risk increases with age but one-quarter of all strokes occur before the age of 65. The death rate following stroke is 20–25% [3]. Stroke is a major global public health problem. According to the Global Burden of Diseases (GBD) study in 1990, stroke was the second leading cause of death worldwide [4]. Subsequent efforts to update the GBD study reported nearly 5.87 million stroke deaths globally in 2010, as compared to 4.66 million in 1990 [5]. According to the estimates from the GBD study in 2001, over 85 per cent of the global burden of stroke was borne by low- and

middle-income countries (LMICs) [6]. Worldwide, approximately 20 million people suffer from stroke each year; 5 million will die as a consequence of stroke and 15 million will survive. Of those who survive, five million will be disabled by their stroke [7]. Moreover it is one of the leading causes of death and disability in India too. The estimated adjusted prevalence rate of stroke range, 84-262/100,000 in rural and 334-424/100,000 in urban areas [8]. In India in a community screening survey for 'hemiplegia' 320 cases were identified in 145 456 persons, indicating a crude prevalence rate (CPR) of 220 per 100 000 persons [9]. Another survey on 20,842 rural residents in East India reported a crude prevalence rate for stroke in the elderly (age 41–60 years) at 540/100 000 [10]. Recent random sample survey in the city of Kolkata reported an age-adjusted prevalence rate of stroke of 788 per 100 000 (738 in men and 823 in women) [11]. Moreover, in a stroke study conducted in Kolkata from 1998 to 1999 showed a crude prevalence rate of 147/100,000 and an annual incidence rate of 36/100,000 [12]. Subcortical white matter stroke constitutes 15 to 25% of all stroke subtypes [13]. Subcortical white matter stroke was first cohesively presented by Pierre Marie, who described the accumulation of small clinical strokes into a progressive state, of motor slowing and global intellectual deterioration [14]. In traditional stroke subtyping, subcortical or white matter stroke includes infarcts in the white matter deep to the cortex in humans, and also small basal ganglia, thalamus, and brainstem strokes or "lacunar" infarctions [15]. It produces hemiparesis or hemisensory loss with incomplete recovery, and they accumulate to produce gait abnormalities, verbal processing deficits, and difficulties in executive functioning that present as vascular dementia [16]. In prospective studies, small white matter strokes are associated with progressive cognitive decline [17]. Pathologically, white matter strokes progress and enlarges over time as evidenced by repeated CT scan and MRI imaging which shows that new white matter strokes develop within pre-existing lesions and also are associated with adjacent lesions in 71% of cases [18]. Some common disabilities associated with stroke include weakness or paralysis and sensory loss, problems with speech and understanding of language (aphasia), and vision problems, impaired ability to read, write, and learn new information, memory problems [19]. In this context this present case report unveils the usefulness of individualized homoeopathic remedy in the management of post-stroke complications.

CASE REPORT:

A 52-year-old male patient visited our out clinic with the complaints of headache with pressive pain which aggravates from noise along with left sided weakness of limbs, gradual loss of memory and diminished muscle power, and involuntary urination. He could not mention anything regarding the modalities. But on further questioning patient told us about the band like feeling around his head.

History of present complaints: This patient had an attack of Cerebro-vascular accident in the year 2020, confirmed through imaging radiology report **[Figure - 1],** all his complaints like forgetfulness, progressive loss of strength and limb paresis started thereafter. Following the attack of stroke, he was hospitalised and recovered the acute attack of the stroke and gradually sent back to home after the resolution of the acute phase. After that he as per the advice of doctors he were admitted under, underwent physiotherapy for some days but could not afford it for a longer period of time due to poor financial status.

Personal history: This patient was addicted to smoking. He had irregular diet habits.

Family history: His father had hypertension.

Local and systemic examination: General survey revealed no abnormalities, however on examination of nervous system we got muscle power to be significantly diminished on the Left side, as per the muscle strength grading system. For the assessment of the quality of life and the muscle power on the subsequent follow-ups we had used the clinical methods (as measured through the standard grading system for muscle power) and stroke impact scale.

Clinical diagnosis and assessment: Based upon the medical history clinical background and presenting sign and symptoms of the patient we diagnosed the case as a post stroke complication with reference to the following codes of International Classification of Diseases, (ICD-10).

- I69.31 Cognitive deficits following cerebral infarction
- I69.354 Hemiplegia and hemiparesis following cerebral infarction affecting left non-dominant side.
- R39.81 Urinary incontinence associated with cognitive impairment

Generalities: On the physical generals our patient had desire for fatty foods, thermally he was a chilly patient. He had a tendency to take cold easily. He was constipated also with

insufficient evacuation. Aside from that he had involuntary urination. Regarding the mental generals he was irritable, and very obstinate, and forgetful.

TOTALITY OF SYMPTOMS:

- Irritability
- Obstinacy
- Forgetfulness
- Chilly patient
- Desire for fatty foods
- Tendency to take cold easily
- Constipation
- Involuntary urination
- Band-like feeling around his head
- Headache with pressive pain < from noise

REPERTORIAL ANALYSIS:

On careful and thorough repertorization [Figure - 2] with Hompath Firefly software, *Nitricum acidum* was found to be the highest scorer (26) with the maximum number of rubrics (10) followed by other remedies like *Nux vomica* (22/9), *Sulphur* (21/9).

THERAPEUTIC INTERVENTION:

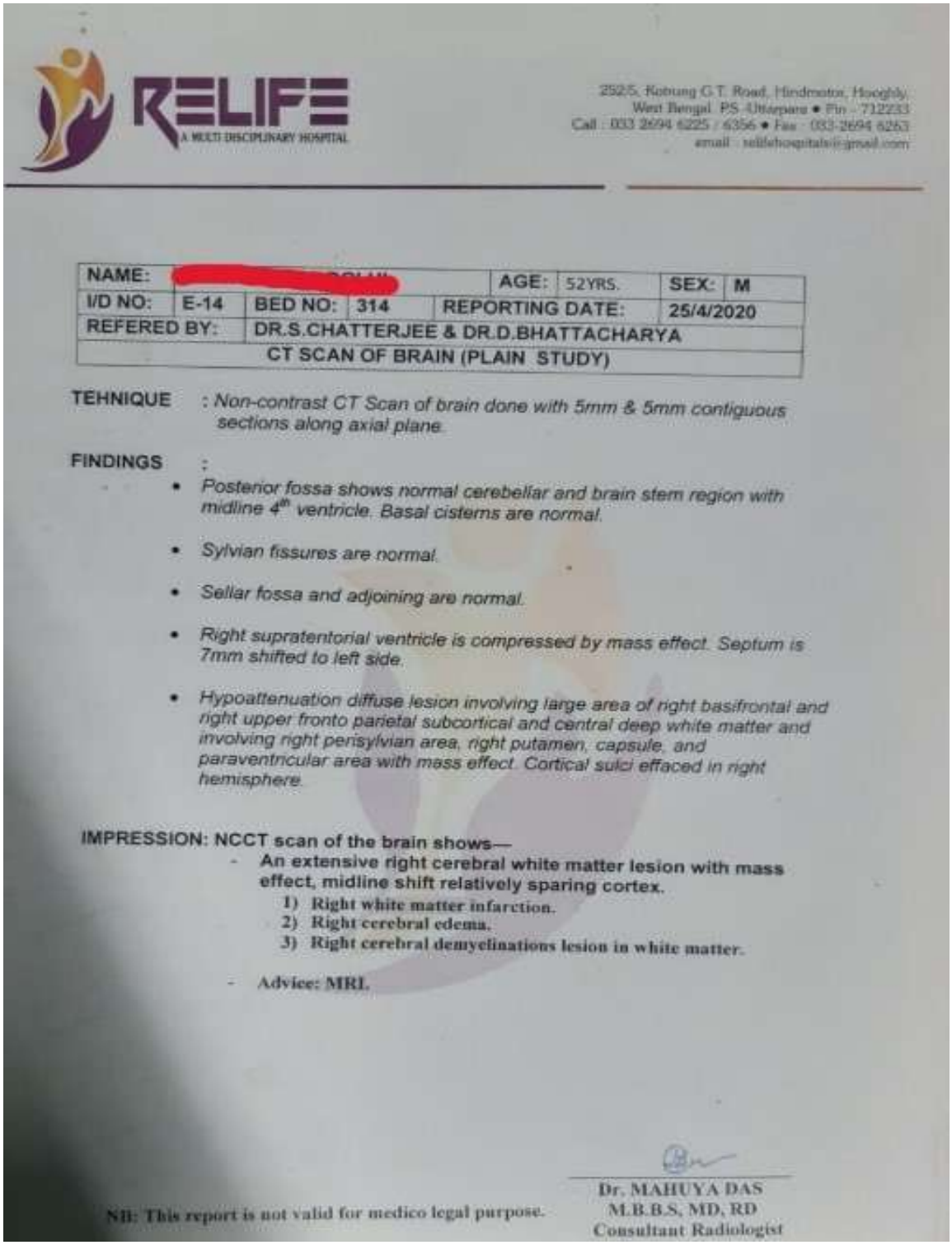
Basis of Prescription: Considering the totality of symptoms, past medical history, family history, and consulting our authentic Materia Medica [20], the homoeopathic medicine *Nitricum acidum* was considered the most suitable remedy for this case.

First Prescription: A single dose of potentized homoeopathic medicine *Nitricum acidum* 200C was prescribed on 06/09/2020. The patient was advised to take four globules of the medicine in the early morning, on an empty stomach from a good manufacturing company followed by placebo for the next 1 month.

Follow-Up Assessments: The patient was consistently followed up at approximately monthly intervals for nearly 1 year and 5 months. Details regarding alterations in signs and symptoms, along with the prescribed medications during each follow-up, are documented in [Table-1].

Results: The patient showed gradual improvement following the administration of Acid Nitric as a constitutional remedy. There was a significant reduction in the patient's

complaints, and not only those troublesome issues resolved completely within the span of almost 1 year and 5 months of homoeopathic treatment but also the pathological changes from which the patient was suffering disappeared which is evident from the CT scan report [Figure - 3] done on 10/1/2022.



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NAME: [redacted]			AGE: 52YRS.	SEX: M
I/D NO: E-14	BED NO: 314	REPORTING DATE:		25/4/2020
REFERED BY:	DR.S.CHATTERJEE & DR.D.BHATTACHARYA			
CT SCAN OF BRAIN (PLAIN STUDY)				

TEHNIQUE : *Non-contrast CT Scan of brain done with 5mm & 5mm contiguous sections along axial plane.*

FINDINGS :

- *Posterior fossa shows normal cerebellar and brain stem region with midline 4th ventricle. Basal cisterns are normal.*
- *Sylvian fissures are normal.*
- *Sellar fossa and adjoining are normal.*
- *Right supratentorial ventricle is compressed by mass effect. Septum is 7mm shifted to left side.*
- *Hypoattenuation diffuse lesion involving large area of right basifrontal and right upper fronto parietal subcortical and central deep white matter and involving right perisylvian area, right putamen, capsule, and paraventricular area with mass effect. Cortical sulci effaced in right hemisphere.*

IMPRESSION: NCCT scan of the brain shows—

- **An extensive right cerebral white matter lesion with mass effect, midline shift relatively sparing cortex.**
  1) **Right white matter infarction.**
  2) **Right cerebral edema.**
  3) **Right cerebral demyelinations lesion in white matter.**
- **Advice: MRI.**

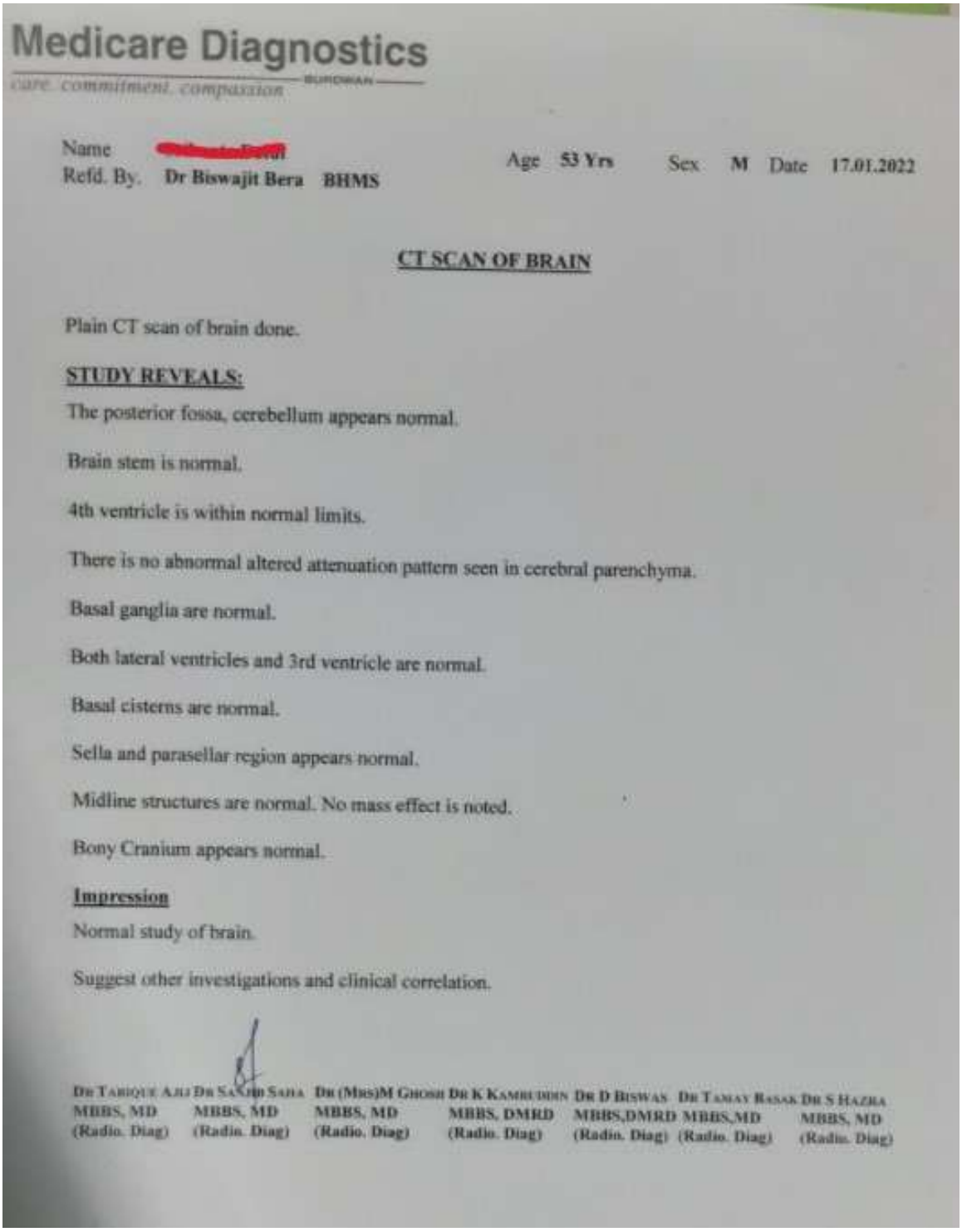
NB: This report is not valid for medico legal purpose.

Dr. MAHUYA DAS
M.B.B.S, MD, RD
Consultant Radiologist

FIGURE- 1 NCCT SCAN OF BRAIN BEFORE THE TREATMENT

Remedy Name	Nit-ac	Nux-v	Sulph	Calc	Phos	Arg-n
Totality / Symptom Covered	26 / 10	22 / 9	21 / 9	20 / 8	20 / 8	19 / 9
[Kent] [Mind]Irritability (see anger): (245)	3	3	3	3	3	2
[Kent] [Mind]Obstinate: (70)	2	3	2	3	1	3
[Kent] [Mind]Forgetful (see memory): (153)	1	1	2	2	3	2
[Kent] [Stomach]Desires:Fat: (5)	3	2	2			
[Kent] [Rectum]Constipation (see inactivity): (213)	3	3	3	3	3	2
[Kent] [Generalities]Cold :Tendency to take: (93)	3	3	2	2	2	2
[Kent] [Generalities]Heat:Vital.lack of: (108)	3	3	2	3	3	2
[Kent] [Head]Constriction.tension (see drawing.pressing):Band or hoop: (60)	3		3			2
[Kent] [Head]Constriction.tension (see drawing.pressing):Band or hoop: (60)	3		3			2
[Kent] [Head]Pain.headache in general:Noise:From: (72)	3	2		3	2	1
[Kent] [Bladder]Urination:Involuntary: (129)	2	2	2	1	3	3

FIGURE-2 REPERTORISATION CHART



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CT SCAN OF BRAIN

Plain CT scan of brain done.

STUDY REVEALS:

The posterior fossa, cerebellum appears normal.

Brain stem is normal.

4th ventricle is within normal limits.

There is no abnormal altered attenuation pattern seen in cerebral parenchyma.

Basal ganglia are normal.

Both lateral ventricles and 3rd ventricle are normal.

Basal cisterns are normal.

Sella and parasellar region appears normal.

Midline structures are normal. No mass effect is noted.

Bony Cranium appears normal.

Impression

Normal study of brain.

Suggest other investigations and clinical correlation.

Dr Tarique Aziz	Dr Sanjib Saha	Dr (Mrs)M Ghosh	Dr K Kamruddin	Dr D Biswas	Dr Tanay Basak	Dr S Hazra
MBBS, MD (Radio. Diag)	MBBS, MD (Radio. Diag)	MBBS, MD (Radio. Diag)	MBBS, DMRD (Radio. Diag)	MBBS,DMRD (Radio. Diag)	MBBS,MD (Radio. Diag)	MBBS, MD (Radio. Diag)

FIGURE- 3 NCCT SCAN OF BRAIN AFTER THE TREATMENT

DISCUSSION:

In homoeopathy we have very few case studies regarding the stroke and its sequalae. Ghosh et al [21] presents a case of subarachnoid haemorrhage before us in which a female patient

aged 45 years approached to them with the complaint of bursting throbbing headache with vertigo aggravating from eye opening and cold application. After considering Totality of Symptoms including causative modality, prescribed *Arnica montana* 3X, one drop in four times in a day (QDS) followed by *Arnica montana* 200C, 3 doses, every single dose in a day. Symptoms directing them to prescribe this was restlessness, desire for sweet, thirstlessness, history of head injury etc. After this treatment there was not only symptomatic improvement but also on imaging radiology report no sign of sub-arachnoidal haemorrhage was there. A 3-months, open-label, randomized, placebo-controlled trial (n = 60) was conducted at the Organon of Medicine outpatient department of National Institute of Homoeopathy, West Bengal, India. by Dutta et al [22]. Patients were randomized to receive IHMs plus SP (n = 30) or identical-looking placebos plus SP (n = 30). Primary outcome measure was Medical Research Council (MRC) muscle strength grading scale; secondary outcomes were Stroke Impact Scale (SIS) version 2.0, Modified Ashworth Scale (MAS), and stroke recovery 0–100 visual analogue scale (VAS) scores; all measured at baseline and 3 months after intervention. Group differences and effect sizes (Cohen's d) were calculated on intention-to-treat sample. On the results overall improvements were higher in the IHMs group than placebos with small to medium effect sizes, the group differences were statistically non-significant (all P>0.05, unpaired t-tests). Improvement in SIS physical problems was significantly higher in IHMs than placebos (mean difference 2.0, 95% confidence interval 0.3 to 3.8, P = 0.025, unpaired t-test). *Causticum, Lachesis mutus*, and *Nux vomica* were the most frequently prescribed medicines. No harms, unintended effects, homeopathic aggravations or any serious adverse events were reported from either group. Abbas et al [23] conducted a an open-label pilot study aimed at identifying usefulness of adjuvant homoeopathic medicines in the treatment of cerebral stroke patients. This study enrolled Fifty patients presenting with episodes of cerebral stroke of the different period were assessed by the National Institute of Health Stroke Scale (NIHSS) Score, prior homoeopathic treatment and after 6 months of treatment. Of 50 patients, 10 patients had stroke more than 1 year and suffering with sequelae, 27 patients had stroke episode between 1 month and 1 year and 13 patients had a stroke episode within 4 weeks. Results showed the reduction in NIHSS score after 6 months of treatment was statistically significant in all three groups. The useful medicines found were *Causticum* (n =

11), *Arnica montana* (n = 7), *Nux vomica* (n = 6), *Lycopodium* (n = 6) and *Lachesis* (n = 3). Neither patient had worsening signs nor any new infarcts during the study. Regarding this case patient came to us with headache, left sided weakness, gradual loos of muscle strength and weakness of memory. After case taking and consulting reperto ry and Materia Medica our final choice was Acid Nitric. Symptoms that led us to prescribe this remedy were obstinacy, irritability, desire for fatty food, and constipation. Apart from the subjective evaluation of symptoms we had used standard scales to evaluate the symptoms of post-stroke sequalae like general clinical procedure to evaluate the muscle tone. The Stroke Impact Scale (SIS) which is a patient-reported outcome measure that evaluates the biopsychosocial aspects of life after stroke. After the first prescription made on 6/9/2020, there was conspicuous improvement in all the chief complaints of the patients except the memory loss which was reflected clinically through the measurement of evaluation of the muscle tone and the stroke Impact Scale (SIS) score. This medication was followed by placebo. The details of the patient's symptoms and his reaction against the corresponding remedy is mentioned in [Table -1]. The patient kept improving with *Nitricum acidum* but at one point we observed no improvement after administration of our constitutional remedy at that point we had prescribed *Arnica montana* followed by which there again improvement in all the complaints of the patient. After that as because the presenting symptoms of the patient was unchanged, we again prescribed *Nitricum acidum 1M*, followed by much improvement. Finally, the patient got very much improved and was found to be free from those post stroke complaints at the last follow up which supported by the post treatment stroke impact scale and muscle power grading scores and the imaging radiology done on 12/1/2022. MONARCH [24] was utilised to assess the potential causal attributions. In this instance, a stronger likelihood of a causal association between the homoeopathic intervention and the patient's clinical improvement is found. [Table- 2].

CONCLUSION:

The above case serves as a testimony of the successful treatment of post stroke complication and restoration of well-being of patient with the help of constitutional homoeopathic medicine. This case also highlights the importance of teachings of Master Hah nemann in the treatment considering the individuality of a patient and depth of the disease along with the

selection of potency of the remedy. However, it would not be appropriate to generalize the usefulness of Homoeopathy in cases of CVA on the basis of single case report. Therefore, further clinical trials are recommended to ascertain the result obtained in the present case report.

Conflict of interest:

None declared.

Acknowledgement:

The authors acknowledge the patient for his cooperative behaviour during treatment and providing consent for reporting this case.

Patient consent:

Written informed consent was provided by the patient.

Table 1: Showing Follow-up of the Case

Date	Symptoms	Prescription	Muscle power	Stroke Impact Scale (Total score)	Stroke Impact Scale (Recovery scale)
6/9/2020	Chief complaints	*Nitricum acidum* 200C/ 1dose	2	202	35
8/10/2020	Headache with its peculiar band-like sensation, left-sided weakness is better than before. Forgetfulness, irritability, and obstinacy is same as before.	Placebo	2	204	40
05/11/2020	Headache and muscular weakness are better than before. Forgetfulness,	Placebo	3	215	45

	irritability, and obstinacy is same as before				
09/12/2020	No improvement, complaints which were better have recurred again.	*Nitricum acidum* 200C/ 1 dose	3	215	45
07/1/2021	All the complaints Improved including the mental symptoms such as forgetfulness, irritability, obstinacy.	Placebo	3	230	50
03/2/2021	All the complaints Improved	Placebo	4	234	60
06/3/2021	More or less all the complaints are improved.	Placebo	4	250	65
05/4/2021	All the complaints have recurred again.	*Nitricum acidum* 200C/ 1dose	4	242	60
09/5/2021	No improvement	*Nitricum acidum* 1M/ 1dose	4	240	60
12/6/2021	No improvement	*Arnica montana* 200C/1 dose		240	55
04/7/2021	All the complaints Improved including those peculiar mental symptoms of the patients.	Placebo	4	253	65
08/8/2021	All the complaints Improved.	Placebo	4	259	70
09/9/2021	Improvement ceases	*Nitricum acidum*	4	259	70

		1M/1 dose			
12/10/2021	All the complaints are much Better.	Placebo	4	263	70
11/11/2021	All the complaints Better	Placebo	4	269	75
08/12/2021	All the complaints Better	Placebo	4	265	75
12/1/2022	All the complaints much Better	Placebo	4	272	75
10/2/2022	All the complaints much Better	Placebo	4	273	75
06/3/2022	All the complaints Better	Placebo	4	273	75
05/4/2022	All the complaints much Better	Placebo	4	273	75

Table 2: Showing Modified Naranjo Criteria for Homeopathy (MONARCH) of the Case

Items	**Yes**	**No**	**Not Sure**
1. Was there an improvement in the main symptom or condition, for which the homoeopathic medicine was prescribed?	**+2**		
2. Did the clinical improvement occur within a plausible time frame relative to the drug intake?	**+1**		
3. Was there a homoeopathic aggravation of symptoms? (need to define in glossary)			**0**
4. Did the effect encompass more than the main symptom or condition, i.e., were other symptoms, not related to the main presenting complaint, improved or changed)?	**+1**		

5. Did overall well-being improve? (suggest using a validated scale or mention about changes in physical, emotional and behavioural elements)	**+1**		
6: (A) Direction of cure: Did some symptoms improve in the opposite order of the development of symptoms of the disease?		**0**	
6: (B) Direction of cure: Did at least one of the following aspects apply to the order of improvement of symptoms: • From organs of more importance to those of less importance? • From deeper to more superficial aspects of the individual? • From the top downward?		**0**	
7. Did "old symptoms" (defined as non-seasonal and non-cyclical symptoms that were previously thought to have resolved) reappear temporarily during the course of improvement?		**0**	
8. Are there alternate causes (other than the medicine) that – with a high probability – could have caused the improvement? (consider known course of disease, other forms of treatment and other clinically relevant interventions)		**+1**	
9. Was the health improvement confirmed by any objective evidence? (e.g., investigations, clinical examination, etc.)	**+2**		
10. Did repeat dosing, if conducted, create similar clinical improvement?	**+1**		
Total score = + 9 (Maximum score = +13, minimum score = - 6)			

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