ejpmr, 2019,6(2), 581-583

SJIF Impact Factor 4.897

EUROPEAN JOURNAL OF PHARMACEUTICAL AND MEDICAL RESEARCH

www.ejpmr.com

Case Report

ISSN 2394-3211

EJPMR

PATIENT OUTCOMES AND USAGE PATTERN OF DRUGS IN ISCHEMIC STROKE- A CASE SERIES

Navya Sri Gurram[1*], Sreeja Vydhyam[2], Dr. Marka Shiva Rama Krishna[3] and Mahender Seru[4]

Kakatiya University, Department Of Pharm-D, Talla Padmavathi College of Pharmacy, Orus, Kareemabad, Warangal, 506012, Telangana.

***Corresponding Author: Navya Sri Gurram**

Kakatiya University, Department Of Pharm-D, Talla Padmavathi College Of Pharmacy, Orus, Kareemabad, Warangal, 506012, Telangana.

Article Received on 23/12/2018 **Article Revised on 13/01/2019** **Article Accepted on 03/02/2019**

ABSTRACT:

Background: Stroke recovery has become the major problem with the stroke affected patients. So, the prognosis of a stroke patient is how far related to its therapy should be evaluated in order to come to a clarity regarding stroke recovery. **Aim:** To assess the therapy and patient outcomes in Ischemic stroke. **Methods:** We report a series of 8 patients affected by Ischemic stroke and are treated with appropriate therapy. **Results:** We found that along with Anti-platelet therapy administration of Inj. Mannitol was also done, but there is no improved outcome in the patient with ischemic stroke. **Conclusion:** As Ischemic stroke is a neurological disease the recovery however will be delayed with oral medications given. Along with medications physiotherapy is the one which improves the patient outcome.

KEYWORDS: Ischemic stroke, Aspirin, Clopidogrel, Mannitol, Patient recovery.

INTRODUCTION

Stroke is the 3rd most leading cause of death in developing world after cancer and Ischemic heart disease. It is the episode of focal brain dysfunction due to focal ischemia (or) hemorrhage.[1] The incidence of stroke may increase with increasing age and practice of less healthy lifestyles. Even though there are selective therapies for treatment of Ischemic stroke, most commonly used drugs for the patient improved outcomes were Aspirin, Clopidogrel alone (or) in combination. Statins if their lipid profile reveals elevated cholesterols, Anti-hypertensives if the patient B.P is elevated. But there is a controversy in the use of Inj. Mannitol in the Acute Ischemic stroke.[2] In order to identify the importance of stroke therapy in patient cognition improvement we have taken a series of 8 patient's affected with Ischemic stroke who were especially treated with Inj. Mannitol.

CASE 1

A 58years female patient was admitted in acute medical care unit (AMC) with complaints of slurring of speech, neck rigidity and deviation of mouth since 1day. She was a known case of Hypertension since 2years and was on medication Atenolol 50mg. On admission, her vitals were stable, except for high blood pressure. CT scan Brain demonstrated that E/O – Large density with HU 26 noted at Right fronto parietal region –S/O Acute infarct. Anti coagulants (Clopidogrel+ Aspirin), Hypolipidemics (Atorvastatin) was administered at the time of admission. On 5th day during the hospital stay, upon the administration of osmotic diuretic (Mannitol) her blood pressure was elevated to 220/130 mmHg, developed chills, headache and the action took against elevated blood pressure is administration of Inj.Furosemide (20mg stat), Inj. Hydrocortisone (100mg stat), Inj. Pheneramine maleate. The prognosis for stroke treatment will be time taking so the patient was adviced for discharge because she was hemodynamically stable. Physiotherapy will be the main stay after the discharge along with oral medications.

CASE 2

A 65years male patient was admitted in acute medical care unit (AMC) with complaints of slurring of speech since 2days. He was a known case of Hypertension since 1month and was on medication Amlodipine 5mg. On admission his vitals were stable except for blood pressure (150/90mmHg). His social history was found to be occasionally alcoholic. CT scan Brain demonstrated that E/O hypodensity with HU 26 noted at left fronto parietal region –S/O Acute infarct. Patient was treated with Anti coagulants (Clopidogrel+ Aspirin), Hypolipidemics (Atorvastatin).On the 2nd day during the hospital stay, Mannitol was administered but the patient did not develop any adverse reactions and the same treatment was continued until discharge. The prognosis for stroke treatment will be time taking so the patient was advised for discharge because he was

hemodynamically stable. Physiotherapy will be the main stay after the discharge along with oral medications.

CASE 3

A 59years female patient was admitted in acute medical care unit (AMC) with complaints of weakness of Right upper and lower limb, headache since 4hours before admission. She was a known case of Hypertension since 2years and was on medication Atenolol 25mg. On admission her vitals were stable except for blood pressure (150/90mmHg). MRI Brain demonstrated that acute infarcts involving left centrum semi-ovale and lentiform nucleus, lacunar infarcts in bilateral capsulo-ganglionic region. Patient was treated with Anti coagulants (Clopidogrel+ Aspirin), Hypolipidemics (Atorvastatin).Mannitol was not administered until the hospital stay. The prognosis for stroke treatment will be time taking so the patient was advised for discharge because she was hemodynamically stable. Physiotherapy will be the main stay after the discharge along with oral medications.

CASE 4

A 68years Male patient was admitted in acute medical care unit (AMC) with complaints of tingling and numbness of Left upper and lower limb since 1day. His past medical history was found to be nothing significant. Social history was found to be occasionally alcoholic. On admission his vitals were stable except for blood pressure (180/80mmHg). MRI Brain demonstrated that acute infarct in the right thalamic region and lacunar infarcts in the bilateral corona radiata. Patient was treated with Anti coagulants (Clopidogrel+ Aspirin), Hypolipidemics (Atorvastatin), Anti hypertensives (Telmisartan). Mannitol was administered on the day of admission but the patient did not develop any adverse reactions and the same treatment was continued until discharge. The prognosis for stroke treatment will be time taking so the patient was advised for discharge because he was hemodynamically stable. Physiotherapy will be the main stay after the discharge along with oral medications.

CASE 5

A 56years Male patient was admitted in acute medical care unit (AMC) with complaints of weakness IN Right upper and lower limb since 2days and loss of speech since 5hours before admission. He was a known case of Hypertension since 2years but was not adherent to medication. His social history was found to be occasionally alcoholic. CT scan brain demonstrated that E/O well defined hypodensities with HU 27 noted at Left frontal and para sagittal region-S/O Acute infarct. Chronic infarct/Gliosis (HU 13) noted at Right parietal region. Patient was treated with Anti coagulants (Clopidogrel+ Aspirin), Hypolipidemics (Atorvastatin), Anti hypertensive's (Telmisartan+ hydrochlorthiazide). Mannitol was administered on the day of admission but the patient did not develop any adverse reactions and the same treatment was continued until discharge. The prognosis for stroke treatment will be time taking so the patient was advised for discharge because he was hemodynamically stable. Physiotherapy will be the main stay after the discharge along with oral medications.

CASE 6

A 79years male patient was admitted in acute medical care unit (AMC) with complaints of weakness of Left upper and lower limb and deviation of mouth since 6hours before admission. He was a known case of Hypertension since 10years and was on medication Amlodipine + Atenolol 5mg+150mg. The patient was occasionally alcoholic. MRI scan demonstrated that acute infarcts involving right capsule ganglionic region and corona radiate. Patient was treated with Anti coagulants (Clopidogrel+ Aspirin), Hypolipidemics (Atorvastatin). Mannitol was administered on the day 2 but the patient did not develop any adverse reactions and the same treatment was continued until discharge. The prognosis for stroke treatment will be time taking so the patient was advised for discharge because he was hemodynamically stable. Physiotherapy will be the main stay after the discharge along with oral medications.

CASE 7

A 82years male patient was admitted in acute medical care unit (AMC) with complaints of weakness of Left upper and lower limb since 4 days with loss of speech and ataxia. His past medical history was found to be nothing significant. The patient was occasionally alcoholic. CT scan brain demonstrated that E/O large well defined hypodensities with HU 27 noted at right fronto temporo parietal region. Patient was treated with Anti coagulants (Clopidogrel+ Aspirin), Hypolipidemics (Atorvastatin). Mannitol was administered on the day 3 but the patient did not develop any adverse reactions and the same treatment was continued until discharge. The prognosis for stroke treatment will be time taking so the patient was advised for discharge because he was hemodynamically stable. Physiotherapy will be the main stay after the discharge along with oral medications.

CASE 8

A 60years male patient was admitted in acute medical care unit (AMC) with complaints of weakness of right upper and lower limb since 2 days with slurring of speech. The patient was chronic smoker. The patient past medical history was found that he was with hypertension (T.Telmisartan 40mg+Amlodipine (5mg) and type 2 diabetes mellitus (T.Glimiperide (2mg)+SR Metformin HCL(1000mg) since ten years. MRI scan demonstrated that PCA territory acute infarcts with small areas of hemorrhagic transformation. Patient was treated with Anti coagulants (Aspirin), Hypolipidemics (Atorvastatin). Mannitol was administered on the day 1 but the patient did not develop any adverse reactions and the same treatment was continued until discharge. The prognosis for stroke treatment will be time taking so the patient was advised for discharge because he was

hemodynamically stable. Physiotherapy will be the main stay after the discharge along with oral medications.

DISCUSSION

From various studies it was found that the treatment of stroke is same for all the types of patients i.e. with Anti platelet drugs, hypolipidemics and antihypertensive for hypertensive patient.[3] But the use of Mannitol is quite controversial as there is no such benefit and harm with the use of that drug in acute ischemic stroke patients.[4] It has the property to reduce the intracranial pressure but it is not effective in reducing the hemorrhage size.[5] It was also found that Mannitol doesn't improve the cerebral blood flow and it may also promote apoptosis.[6] Even though there are many unclear uses of Mannitol use in Ischemic stroke there is clear evidence in the use of Intra cerebral hemorrhage.[7]Apart from the beneficial effect of Mannitol there are no predictions for the routine use of Mannitol in all patients with Acute ischemic stroke.[8] We may notice Mannitol related AKI (se.cr > 0.3mg/dl).[9]

From the above 8 cases series there is the similar use of Mannitol in Ischemic stroke patients keeping a side their hemorrhagic status. Even with administration of Mannitol we did not notice any kind of earlier recovery from the symptoms. As per the guided theory it is used only to reduce the intracranial pressure which is seen most commonly in ICH. But its use has been extended to ischemic stroke which is believed to be a supportive therapy. Even though there is no faster recovery the recommended therapy for ischemic stroke included Inj. Mannitol of 20gm during the hospital stay as a supportive therapy.

We also noticed Mannitol induced chills, headache in case1 which was recovered by administration of relevant Anti-histamines.

CONCLUSION

After the complete study of usage of drugs in Ischemic stroke patients in a limited number of cases it was found that the therapy must be supportive to patient without causing any adverse effects. Mannitol did not succeed in showing its effect on stroke but it was added to prevent the further transformation of ischemic stroke to hemorrhagic stroke. It was also found that when the patients were on physiotherapy there is a lot more improvement in the sensorium of patients along with oral Anti-platelet therapy.

REFERENCES

1. Nicki R. Colledge, Brain R.walker, Stuart H. Ralston. Cerebrovascular disease. Text book of Davidsons principles and practice of Medicine, 21st edition; 1180-1189.
2. Barbara G.Wells, Joseph T.Dipiro, Terry L.S, Cecily V.Dipiro. Stroke. Pharmacotherapy handbook, 9thedition, 2015; 120-124.
3. Roger Walker, Cate Whittlesea. Text book of clinical pharmacy and therapeutics, 5th edition, 2012; 153-154.
4. Daniel Bereczki, Laszlo mihalka, szabolcs szatmari et.al. Mannitol use in Acute stroke: case fatality at 30days and 1year, http://stroke.ahajournals.org/2003;34:1730-1735.
5. J.kalita, U.K. Misra, P. Ranjan, P.K. Pradhan, B.K. Das. Effect of Mannitol on regional cerebral blood flow in patients with intracerebral hemorrhage. Journal of Neu.sci, 2004; 224: 19-22.
6. Tang SC, Lin RJ, Shing shieh J, Yeuwu An et.al. Effect of Mannitol on cerebrovascular pressure reactivity in patients with intracranial hypertension, Journal of the Formosan medical association, 2013; 1-7.
7. Gilles francony, Bertrand fauvage, Domnique falcon et.al. Equimolar doses of Mannitol and hypertonic saline in the treatment of increased intracranial pressure. Critcare med, 2008; 36: 795-800.
8. Bereczkid, Lium, Fernandesa do prado G, fekete I. Mannitol for acute stroke. Cochrane Database of systematic reviews 2007; issue 3. Art no: CD001153. Pub2.
9. Shin-Yi Lin, Sung-chun Tang, Li-kai Tsai, Shin-Joe Yeh et.al. Incidence and risk factors for acute kidney injury following Mannitol infusion in patients with acute stroke. Med. J, 2015; 94 1-6.