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A 40-Year-Old Male Patient With Encephalopathy Hypertension And Emergency Hypertension With Sinus Tachycardia And Acute Kidney Injury. A Case Report.

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Abstract: *We present the case of A male 40 years old with Encephalopathy Hypertension and Emergency Hypertension with Sinus Tachycardia and Acute Kidney Injury. the patient was diagnosed with hypertensive encephalopathy based on clinical criteria upon admission to the hospital, compared to the patient's condition when allowed to go home. Electrocardiography, chest x-ray, and laboratory examinations such as kidney function tests, liver function tests, and complete blood count were performed to identify other complications of hypertensive emergency. This patient was taken to the ER due to decreased consciousness after a seizure occurring shortly before being admitted. After a comprehensive physical examination, a blood pressure of 260/110 was recorded, and the patient exhibited decreased consciousness: GCS eye 4, verbal 3, motor 5. The patient was given intravenous anti-hypertensi to reduce blood pressure according to the recommended MAP, which is a 20-25% decrease in one hour. Subsequently, the patient's blood pressure normalized, and slowly, the patient's consciousness returned to normal. The patient was stable and, on the third day of treatment, was discharged with normal blood pressure and no neurological deficits.*

Keywords: *Encephalopathy Hypertension, Emergency Hypertension, Seizures, Loss Of Consciousness.*

Introduction

Hypertensive crises represent more than one-fourth of all medical emergencies and can result in acute end-organ injuries such as HE. HE is usually reversible, failure to promptly treat the dramatic rise in blood pressure may lead to fatal consequences. It is an emergent syndrome that requires correct identification and early management. (Chung T, 2013) An abrupt blood pressure increase can exceed the cerebral blood vessels' autoregulatory capacity, disrupt the blood-brain barrier, and produce brain edema. Patients may experience severe headaches, altered mental status, visual disturbances, and seizures. Coma and death may result if this condition is not managed promptly. (Potter T, 2024)

Hypertensive encephalopathy is an acute reversible syndrome caused by a sudden increase in blood pressure that crosses the limits of brain auto-regulation. Symptoms may

include headache, vomiting, trouble with balance, and confusion. Onset is generally sudden(Armstrong, 2019; Chen, 2020; Garcia, 2018; Paterson, 2020). Complications can include seizures, posterior reversible encephalopathy syndrome, and bleeding in the back of the eye. (Srividova K, 2019) Hypertensive encephalopathy is most commonly encountered in young and middle-aged people who have hypertension. Overall, the condition is rare even among people with hypertension. Studies report that from 0.5 to 15% of people with malignant hypertension develop hypertensive encephalopathy. (Potter T, 2024)

Methodology

This study presents a case report of a 40-year-old male diagnosed with hypertensive encephalopathy, emergency hypertension, sinus tachycardia, and acute kidney injury. The research method employed is a descriptive, qualitative case study approach. Data collection involved a thorough review of the patient's medical records, including history, physical examinations, laboratory tests, and imaging results such as electrocardiography and chest X-rays(Angeli, 2018; Neelapu, 2018; Olesen, 2018; Younossi, 2019). The primary focus was on the patient's clinical presentation upon admission, treatment administered, and subsequent recovery. Clinical criteria were used to diagnose hypertensive encephalopathy, and other potential causes of the symptoms were excluded through differential diagnosis. Blood pressure management was a key element in the treatment, with close monitoring to achieve the targeted reduction in mean arterial pressure (MAP). The data analysis involved a narrative synthesis of the patient's progress from admission to discharge, with particular attention to the correlation between the reduction in blood pressure and the resolution of symptoms(Grobman, 2018; Jayson, 2016; Schlumberger, 2015). The study also compared the case with existing literature to contextualize the findings within the broader field of hypertensive emergencies. Ethical considerations were adhered to, ensuring patient confidentiality and the use of data solely for educational and research purposes. This case highlights the importance of prompt and effective management in cases of hypertensive encephalopathy to prevent potential fatal outcomes. The findings contribute to the existing knowledge and underscore the need for heightened awareness of hypertensive emergencies in clinical practice.

Result and Discussion

CASE DESCRIPTION

History taking

A male 40 years old came to the Emergency room with symptoms of sudden loss of consciousness when he was in some ceremony in his village. He can't open one of his eyes (the right eye), and he also can't speak properly as usual. In the ER patient has a seizure of about 2 minutes His family and the patient don't know that he had hypertension before. The patient doesn't have history of seizure before.

Physical examination: bad general condition, losing consciousness and neurological status is delirium with GCS (Eye 4 Verbal 3 Motoric 5) BP: 260/160 mmHg PR: 128 x/m RR:

20 x/m T: 36 SpO2:97%, In the neck, Jugular Venous pressure increased (5+1) In the thorax, Rhonchi +/+ minimal photo thorax, Cardiomegaly with elongated aorta, and pneumonia. Electrocardiograph, sinus Tachycardia with Old Myocardia infarct In Laboratories finding, ureum:30,8, Creatinine: 2 SGPT/SGOT: 50,5/58,5 and the complete lipid examination found high triglycerides (429 mg/dl) in blood. With normal ranges of platelet, Leukosis, and Hemoglobin in complete blood examination. And normal range of blood glucose.

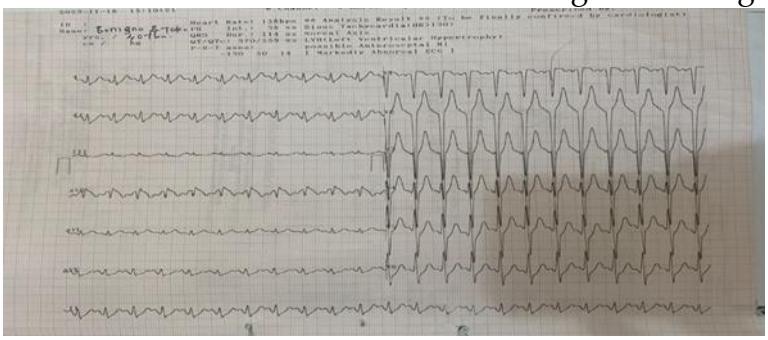

Figure 1 Old myocardia Infarct with Sinus tachycardia

Figure 2. Cardiomegaly with elongated aorta, and pneumonia.

Diagnosis: Encephalopathy Hypertension and Old myocardia Infarct with Sinus tachycardia and Acute Renal insufficiency with Emergency Hypertension

Treatment: we give intravenous injections as, furosemide 40 mg, phenytoin 100mg per 6 hours, drip nicardipine and Ceftriaxone 1 gr vial per 12 hours, and irbesartan 300 mg, Amlodipine 10 mg, atorvastatin 20 mg, and bisoprolol by Oral taking.

Discussion

a 40-year-old male patient complained of sudden seizures while in the ER, the patient also spoke incoherently and was unconscious while at a family event. The patient had never had a seizure and did not know he had hypertension before because he never had himself checked. On physical examination found high blood pressure, namely 260/160 with a pulse of 128 per minute. and also found minimal soft wet crackles in both lung fields. From the

history and physical examination, the patient had hypertensive encephalopathy. Patients should be evaluated for signs of organ damage such as, decreased consciousness, seizures, and an increase in serum creatinine as well as an increase in serum SGPT and SGOT it can be classified as a hypertensive emergency. the chest x-ray, there are signs of aortic elongation. So, blood pressure must fall by 140 mmHg in 1 hour. This patient was given drips of nicardipine, Amlodipine, and irbesartan orally which immediately lowered blood pressure quickly according to the target. On the 2nd day of treatment in the High Intensive Care Room (HCU) there were no longer any signs of decreased consciousness, retinal hemorrhages, and papilledema, blood pressure was stable, urine output was normal and the ECG picture had improved well. Regarding the treatment given, it is by the guidelines (consensus penataksanan hypertension 2021). The patient was given nicardipine, which functions as arteriolar dilatation, given intravenously with an initial dose of 5 mg/hour, with a maximum dose of 15 mg/hour with reduction target 20-25 % MAP. (Lukito A, 2019)

The diagnosis of hypertensive encephalopathy was made in this patient based on high blood pressure plus neurological symptoms to the exclusion of other symptoms that could cause similar symptoms. Ischemic stroke and intracerebral hemorrhage areno longer considered. (Prasmaswari N, 2022) (Srividova K, 2019)

The definitive criterion to confirm the diagnosis is an improvement in the patient's overall condition after administering antihypertensive therapy, this occurs in patients after treatment up to day 5. The patient was allowed to go home without neurological sequelae. The patient went home with oral anti-hypertension drug therapy, namely, amlodipine, irbesartan, and captopril. (Lukito A, 2019)

The patient's ECG examination did not show any acute abnormalities. However, signs of old myocardial infarction were found which could be an indication that the patient's hypertension was chronic even though the patient had never been checked before.

In the initial ECG examination, the pulse rate increased to 128 times per minute, this is because high blood pressure triggers the heart to work faster, which is a sign of heart damage due to hypertension. This can be seen from the image of an enlarged heart with a CTR: 62% (cardiomegaly) on his chest photo

Conclusion

A Male 40-year-old has reported suffering from encephalopathy Hypertension with many symptoms reportedly correlation with Emergency hypertension as seizures, loss of consciousness, and dysfunction of renal with the elevate of creatinine serum, the elevate of liver serum (SGOT and SGPT) and sinus tachycardia.

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