MANAGEMENT OF HYPERTENSIVE EMERGENCIES IN PAEDIATRICS

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INTRODUCTION

Hypertensive encephalopathy manifests with a spectrum of symptoms including headaches, nausea, vomiting, visual disturbances, focal neurological deficits, and seizures, often occurring suddenly alongside severe systemic hypertension. Despite longstanding consensus that managing severe hypertension in children requires carefully controlled gradual reduction of blood pressure to avert irreversible neurological harm, the current landscape of pediatric guidelines lacks uniformity on this critical aspect.

CASE DESCRIPTION

A previously healthy 8 years old boy had a generalised tonic clonic seizure preceded by 3 days history of headache, vomiting, abdominal pain, periorbital and bilateral lower limb swelling. Blood pressure was 182/125, PR 85, DXT 5.5, RR 34 and SPO2 89 under room air. Upon auscultation, lungs had bilateral crepitations up to midzone. Findings at neurologic examination were normal. Findings on computed tomographic (CT) scan at time of presentation revealed no intracranial haemorrhage or infarct. A diagnosis of nephrotic syndrome with hypertensive emergency (hypertensive encephalopathy and acute pulmonary oedema) was made. The patient was put on CPAP and given oral Nifedipine. After 10 days admission, blood pressure was controlled with oral nifedipine and no further seizure activity or neurologic symptoms, patient was discharged with Klinik Kesihatan appointment for BP monitoring.

DISCUSSION

Currently, no consensus exists on the best first-line drug for hypertensive crises in children. European guidelines suggest sodium nitroprusside and labetalol, while the American Academy of Pediatrics recommends esmolol, hydralazine, labetalol, and nitroprusside (1,2). Malaysian protocols suggest intravenous labetalol, nicardipine, hydralazine, and esmolol. Oral nifedipine, once used, is now avoided in adults due to risks but remain to be used in paediatrics (3). Beta blockers, like labetalol, and calcium-channel blockers, such as clevidipine and nicardipine, are effective. Beta blockers outperform nitroprusside in blood pressure reduction (4). Sodium nitroprusside's use is limited due to potential toxicity, especially in children with renal issues. Comprehensive studies comparing oral versus intravenous antihypertensives in pediatric cases are lacking.

CONCLUSION

Hypertensive encephalopathy is a rare neurological syndrome in children. It is associated with rapid onset of severe hypertension followed by complete recovery if promptly treated. This syndrome can be fatal if unrecognized and not promptly treated, therefore it should be considered as a medical emergency.

KEYWORDS

Paediatric, hypertensive emergency, encephalopathy

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