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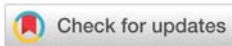
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Case Report

Emergencies Hypertensive: A long term follow-up of renal function with pharmacological and Non Pharmacological therapy

Abstract

Background: Patients who experience emergencies (HEs) and urgencies (HUs) hypertensive are at high risk for developing clinical complications such as ischemic attack, acute renal injury, or any other ischemic organ damage.

Methods: We reported a case of 45 year-old female admitted to our Emergency Medicine Department for cefalea. The clinical characteristics at admission were: BP was 220/125 mmHg, HR 90 bpm, SO₂ 92% A.A., no fever, BMI 25 kg/m². She received a treatment with intravenous labetalolo 20 mg BID, followed by 20 mg after 20 minutes. After about 6 hours she was asymptomatic and blood pressure was 150/90 mmHg. We invited to take enalapril 20 mg and she started low protein diet (LPD) (0.8 gr/Kg/day) at home.

Conclusion: Our approach might be to add pharmacological therapy with LPD for patient with HEs and acute renal failure. In fact, it has been reported that LPD retard the progression of renal failure.

Case Report

We describe a case of 45 year-old female admitted to our Emergency Medicine Department for cefalea. She also hasn't a history of arterial hypertension or other disease. The clinical characteristics at admission are: BP was 220/125 mmHg, HR 90 bpm, SO₂ 92% A.A., no fever, BMI 25 kg/m². The objective exam evaluation was negative. At admission she received a treatment with intravenous labetalolo 20 mg BID, followed by 20 mg after 20 minutes. The blood investigation showed a significantly increase of serum creatinine and BUN (+ 9% and +20%, respectively vs basal value). The urine analysis showed protein excretion equal to 1 gr/day. The EKG analysis showed ventricular hypertrophy. After about 6 hours she was asymptomatic and blood pressure was 150/90 mmHg. The patient was discharged after 48 hours, stable, and with reduction of serum creatinine and serum BUN (- 9% and -12%, respectively vs admission). We invited to take enalapril 20 mg and she started low protein diet (LPD) (0.8 gr/Kg/day) at home. After 72 months, she decided to abandon LPD and at control we observed the reduction of Creatinine Clearance (about 40% vs T48, p < 0.01) and the increased of protein excretion (about 50% vs T48; p < 0.01). We invited her to restart LPD and successively we observed a significantly ameliorate of renal function with follow-up at the 144 months (Figure 1).

Discussion

Emergencies hypertensive (HEs) is described as severe hypertension (systolic blood pressure [BP] ≥180 mm Hg and/or diastolic BP ≥110 mm Hg) associated with signs or symptoms of acute organ damage [1]. The recommendation for HEs should be the reduction of the blood pressure by 25% to prevent clinical

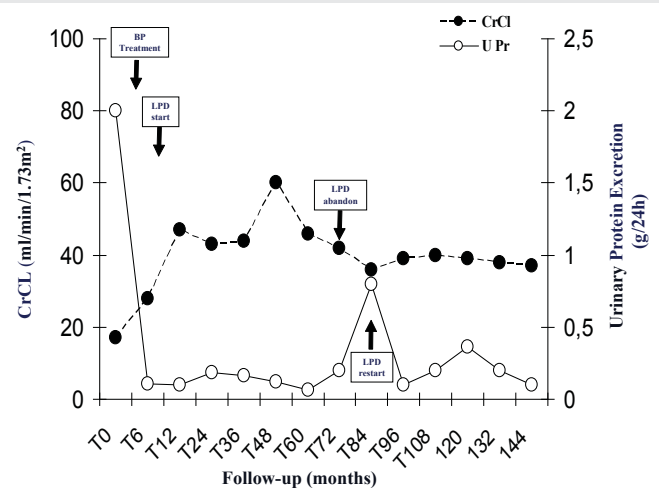


Figure 1: Follow-up (Months).

complications [2]. However, before the age of 45, women as compared with men have a lower incidence and prevalence of hypertension, a significant risk factor for cardiovascular disease (CVD); while, as women age, this risk increases [3]. One explanation for this age-related development of hypertension seen in women is postulated to involve the decline in estrogen levels after menopause, suggesting that the loss of estrogen unmasks hypertension in these women [4]. Salt sensitivity is another crucial aspect present in approximately half of those with essential hypertension [5] and it may enhance the risk of cardiovascular and kidney-related morbidity in these patients [6].

No data in literature reported the role of low protein diet (LPD) in renal function in emergencies hypertensive. It has been described that LPD may retard the progression of kidney injury [7-9]. Epidemiological evidence demonstrated that a dietary intake, with 0.8 g/day of protein per kg of ideal weight, could represent a substantial reduction of their habitual protein intake. In our patient a long-term LPD (after 144 months), as reported in Figure 1, has contribute to ameliorate the renal function and to decrease cardiovascular mortality. Futury studies are necessary to confirm the use of LPD, added to pharmacological therapy, in follow up for patients with HES.

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