Emergencies A series – 2

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This is a case report of a 60-year-old man, an acute emergency in a comatose state with hypovolemic shock and acute renal shut down with metabolic acidosis.

Here we highlight on the superiority of dopamine over norepinephrine. The doses and frequency with which injection Lasix can be administered in different mode.

10:45 AM in the emergency department 60 years male in an unconscious state not responding to pain.

CBG on arrival was 28mg% corrected with 200 ml of 25d BP? NO urine output since 5PM of the previous evening.

Managed in the ED by Emergency Physician Patient was intubated and managed with intravenous fluid, Noradrenaline infusion 12:45 PM Medicine Opinion Patient was in an unconscious state, pallor present, pedal oedema present.

Blood Pressure 60/?

History obtained from his wife.

Not a smoker, non-alcoholic

lower abdominal pain of 5 days duration.

constipation for 2 days

vomitted twice

Monitor Lead at 12:45 PM showed SVT Rhythm

It was corrected with intravenous Amiodarone 300mg in 100ml NS and a subsequent dose of 300 mg over 5hrs.

Patient was referred to department of Nephrology since the patient is in Acute renal failure.

At 4:45PM the case was seen by medicine unit.

Unconscious, urine output 40 ml since 24hrs.

Acute renal shutdown and metabolic acidosis secondary to hypovolemic shock.

SVT reverted with Amiodarone.

Patient was on mechanical ventilation added to the intravenous fluid, are injection dopamine and injection Dobutamine 5 mic gram each per kg per Minute as ionotrop also to increase renal perfusion.

Metabolic acidosis was corrected with 400 ml 0.45 saline with 100 ml sodabicarb at a dosage of 30 ml/hr.

Injection Lasix 1mg/hr infusion.

Other drugs that were given- Liver supportive drugs viz. L.Ornithidine and L.Aspertate. Also inj Vitamin K and FFP were added.

In all cases of coma we administer iv B_1, B_6, B_{12} and nicotinamide

Apart from higher antibiotics fluid balance chart and diabetic chart.

Day 2 in ICU

On Mechanical ventilation with sedation and paralysis.

Not responding to pain.

Heart rate 110 bpm Blood Pressure 90/30 mmHg

Abdomen distended

Intake 884 ml output 1109 ml on the second day of admission. There was a negative balance of approximately 200 ml

With hemodynamic improvement.

Day 3

Conscious, Blood Pressure 90/60, heart rate 130bpm, respiratory rate 24/mt

Fluid balance chart revealed an intake of 3000ml and an output of 3950 ml His wife and relatives urged to discharge the patient. Extubation was done on an emergency basis.

Conscious, oriented, obeys command.

Respiratory crackles were present.

Injection Lasix was altered from infusion to 10 mg IV Q6H.

He was also on liver supportive medication as his transaminase levels were high.

Patient was transferred to medical ward.

Investigations done elsewhere on arrival.

TLC 19600 /mm^3

RBC 3.5 million/mm^3

Platelets 4.3 lakhs/mm^3

Urea 103 mg %

Creatinine 1.5mg%

Uric acid 6.5mg/dl

Total Bilirubin 2.3mg%

D. Bilirubin 1.1mg/dl

SGOT 335 unit

SGPT 946 unit

ALP 175 unit

HIV/ HbsAg/HCV are negative

Investigations in the hospital

On 18/02/22

Hb 8.6g/dl

TLC 10000 cells/mm^3

DLC Neutrophil 86,

Lymphocytes 9,

Eosinophil 2

Monocytes 3

Urea 105mg/dl

Creatinine 2 mg/dl

Uric acid 7.3 mg/dl

PT 31.4 INR 2.6 APTT51.5

Grouping A +ve

Continuous infusion of Dopamine in low dose is the drug of choice for cardiogenic shock and a septic shock. It raises the blood pressure by stimulating B1 receptor on the heart to increase the cardiac output. And by stimulating alpha 1 receptor in the blood vessels to increase peripheral vascular resistance. Dopamine enhances the renal perfusion by arteriolar dilation. Dopamine is far superior to norepinephrine, which diminishes the blood supply to the kidney and may cause renal shut down Ref[1]

Dopamine is also used to treat hypotension and severe heart failure in patients with low or normal peripheral vascular resistance and in patients who have oliguria.

Final Diagnosis

Hypoglycemia -corrected

SVT – reverted

Hypovolemic shock causing Acute renal shutdown and Metabolic Acidosis probably also ischemic hepatitis

In emergency situations Lasix can be given as 40-60mg stat following which this can be infused 1-2mg/hr. In a day or two depending on the clinical status Lasix can be administered on 6^{th} hourly basis (10mg iv Q6h). After 2 days to oral tablets.

Patient was sent home with stable vitals.

Reference:

1. Whalen, K., Finkel, R., & Panavelil, T. A. (2015). *Lippincott illustrated reviews: Pharmacology* (6th ed.). Philadelphia, PA: Wolters Kluwer.