Course: Pharmacology
Content: THIAMINE, VITAMIN B1, BETALIN

A. ACTIONS

1. Required for the conversion of glucose into energy
   • required for the conversion of pyruvic acid to acetyl-coenzyme-A

B. INDICATIONS

1. Coma of unknown origin
   • if blood sugar can not be obtained and the patient is unconscious consider Thiamine, Narcan, Dextrose

2. Delirium Tremens

3. Alcoholism

4. +/- Malnutrition
   • what occurs with alcoholism, Thiamine in our body is depleted

C. SIDE EFFECTS

1. Transient burning in arm along IV line
   • rare, less than 1% and can be avoided by giving slowly

2. Slight, transient vasodilation and hypotension after rapid IV administration

3. Anaphylaxis
   • rare
D. **PRECAUTIONS**

1. Thiamine should be given prior to or concurrently with administration of glucose bolus or infusion. Because thiamine is essential in carbohydrate metabolism, a concentrated glucose load will rapidly deplete thiamine stores and precipitate or worsen encephalopathy in patients with underlying thiamine deficiency.

E. **CONTRAINDICATIONS**

1. None in an emergency setting

F. **DOSAGE**

1. 100 mg IV slowly

G. **ADMINISTRATION**

1. May be given IM but IV route preferred in emergency care

2. Available po, not for emergency care

H. **MISCELLANEOUS**

1. A load of carbohydrate (ex Dextrose) in a thiamine-deficient alcoholic can cause a metabolic abnormality – Wernicke's encephalopathy

2. Wernicke's presents as acute onset mental confusion, nystagmus (vertical and horizontal), disconjugate gaze, gait disturbances (ataxia), often tachycardic and orthostatic BP.

3. If Wernicke's is untreated it can progress irreversibly to Korsakoff's Psychosis which is characterized by memory disorder.