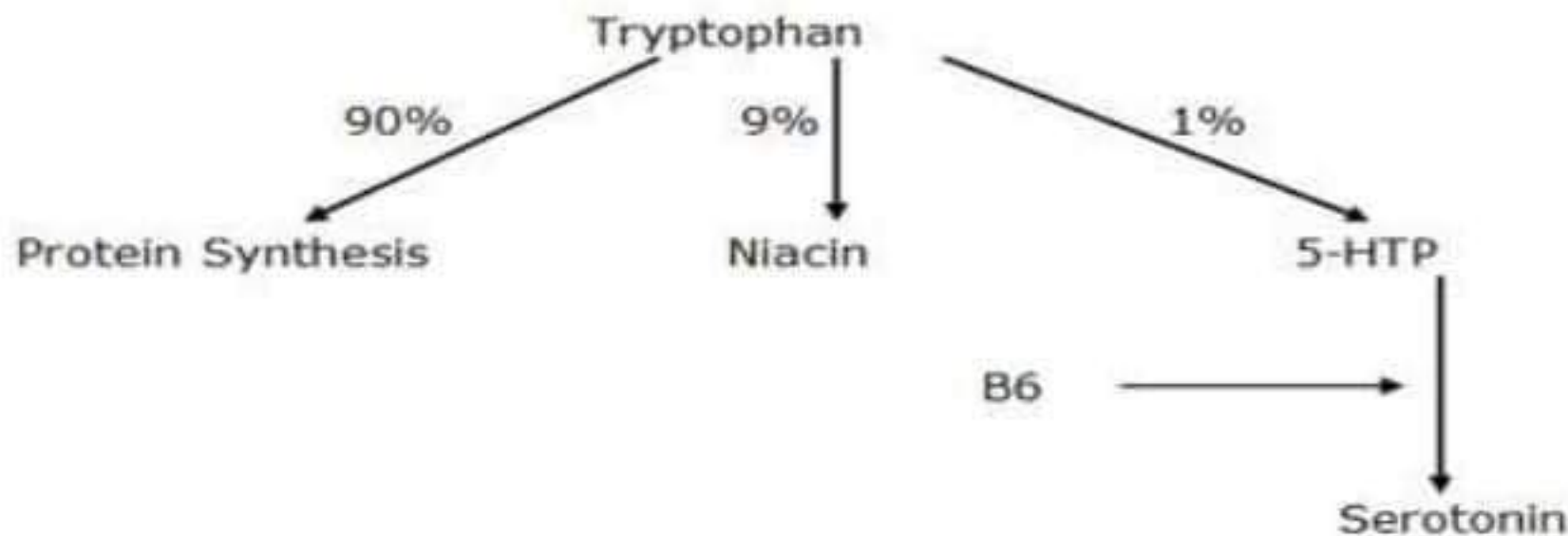




DEFINITION

- Cellular deficiency of niacin, resulting from an inadequate dietary supply of **Niacin** (Vit B₃ / Vit PP / Nicotinic Acid) and tryptophan, or high Leucine, is termed Pellagra



Pellagra



- ❖ Niacin deficiency
- ❖ Characterized by the 4 D's:
 - ❖ dermatitis, diarrhea, dementia, death
- ❖ Prevented by eating red meat; enriched and whole-grain cereals

Pellagra: The Epidemiology

- **Recognized as a nutritional disease in 1913, when over 30,000 cases with a mortality rate of 40% already occurring in South Carolina alone.**
- **Socioeconomic prides prevented earlier Spanish from accepting the poverty reality; obsession with infectious disease in medical community also ignored a classic proof that pellagra is not contagious.**

ETIOLOGY

PRIMARY / DIETARY

Corn / Maize-diets (Bound Niacin)

Jowar (High Leucine content)

Uncommon in Mexicans (Nixtamalization)

GI DISEASE

Jejuno-Ileitis / Prolonged Diarrhoea / IBD

MALABSORPTION SYNDROME

CARCINOID SYNDROME

HARTNUP DISEASE

- Brush-border system defect
- Defective transport / absorption of AAs

CHRONIC ALCOHOLISM

ANOREXIA NERVOSA

FOOD FADISM

FOOD ALLERGIES

CLINICAL FEATURES

- 04 Ds

Dermatitis

Diarrhoea

Dementia

Death (due to MODS)

Pellagra – Signs & Symptoms

- 'three Ds': diarrhea, dermatitis and dementia
- Reddish skin rash on the face, hands and feet which becomes rough and dark when exposed to sunlight (pellagrous dermatosis)
 - acute: red, swollen with itching, cracking, burning, and exudate
 - chronic: dry, rough, thickened and scaly with brown pigmentation
- dementia, tremors, irritability, anxiety, confusion and depression

The Rash of Pellagra

- Bilateral and symmetrical
- Usually starts in sun exposed areas
- Then classically dorsa of hands, face, neck, and chest. Casal's necklace – broad band at collar-line
- Can have intense pruritis
- Starts as well demarcated erythematous patches
- Second stage – dry, scaley, hyperkeratotic

Pellagra Rash



Image Of The Day



CASAL NECKLACE

SEEN IN

PELLAGRA

Blood and Urine Tests Can Confirm the Diagnosis of Pellagra



FURTHER INVESTIGATION

- Oral cephalexin and tapering prednisolone ineffective
- History of poor nutritional intake, docusate sodium tablets for laxative effect, intermittent diarrhea
- Patient underweight (17 kg/m^2)
- Scaly hyperpigmented collarette on chest resembled a Casa necklace (Figure C)
 - This prompted a clinical diagnosis of vitamin B₃ deficiency
- Administering oral nicotinamide 50 mg twice daily resulted in very significant improvement



TREATMENT (DIETARY)

- TRYPTOPHAN-RICH FOODS viz Liver / Eggs / Legumes / Nuts
- **RDA (NIACIN)**
 - Males: 19-50 years : 19 mg/day; >50 years : 15 mg/day
 - Females: 19-50 years : 15 mg/day; >50 years : 13 mg/day
 - Pregnant: 18 mg/day
 - Nursing: 17 mg/day
- NIXTAMALIZED MAIZE (CURED CORN)
- AVOIDANCE OF JOWAR

TREATMENT (MEDICAL)

- NICOTINAMIDE

500mg / day X 03-04 weeks

Neurological reversal within 24-48 hrs

Cutaneous resolution within 04 weeks

- NIACIN

50-100mg PO TDS X 03-04 weeks

- TREATING UNDERLYING CAUSES IN SECONDARY PELLAGRA