How Sweet it Is – Understanding Diabetes

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Objectives

- Understand the anatomy and physiology glucose control
- Discuss the physiology of diabetes
- Discuss patient presentations
- Discuss treatment options

Epidemiology
Morbidity and Mortality
Prevalence
Health Care Costs

Terminology

- Target cells
- Glucose
- Glycogen
- Alpha cells
- Beta cells
- Insulin
- Glucagon

Anatomy and Physiology – Increased blood glucose levels – Insulin Release – Decreased blood glucose levels – Glucagon release	
Type 1 Diabetes Type 1 diabetes is a disorder in which blood levels of glucose (a simple sugar) are abnormally high because the body doesn't produce insulin adequately	
Type 2 Diabetes Type 2 diabetes is when the pancreas continues to manufacture insulin, sometimes even at higher than normal levels, however, the body develops resistance to its effects, resulting in a relative insulin deficiency	
Clinical Characteristics	

Management of DM
- Pharmacological therapy
- Diet regulation
- Exercise

Glucose Related Disorders
- Hyperglycemia
- Diabetic ketoacidosis
- Hyperglycemic hyperosmolar nonketotic coma
- Hypoglycemia

Hyperglycemia
- Decreased insulin
- Glucose Levels
- Renal compensation
- Osmotic pressure
- S+S
- The three P's:
  - P_____
  - P_____
  - P_____

DKA

- Precipitating factors
- Metabolism of fat
- Ketone production
- Dehydration
- Electrolyte abnormalities
- Acidosis
- S+S (acidosis)
- S+S (dehydration)

HHNK

- Patients at risk
- Glucose levels
- Mortality
- Role of insulin
- S+S
- Treatment

Hypoglycemia – Onset – Level of Consciousness. – Compensation – History – S+S – Treatment Long-term Complications – Blood vessels – Eyes – Kidneys – Nerves – Skin – Infection	

Medications

- Insulin
- Oral Hyperglycemics
  - Glucophage
  - Glyburide
  - Diabenase
  - Glucotrol
  - Amaryl

Summary

- Diabetes is a total body disease
- Several undiagnosed diabetics
- Diabetic emergencies can be life threatening
- Multiple presentations of diabetic emergencies
- >50% of DKA episodes preceded by infection