

BETTY SWEET: VISIT #1

Dr. Washington

Patient: Betty Sweet

Age: 38 year old female

Also in appointment: 13 year old daughter, Aintshe Sweet

Setting: Outpatient Office with Dr. Washington

Visit # 1

As you sit down to begin talking with Ms. Sweet, her daughter, Aintshe asks, "My mother has trouble seeing and is always thirsty. Does she have diabetes?"

Chief Complaint:

- Fatigue and increasingly thirsty

HPI (History of Present Illness): Betty is a 38 year old woman that comes to the doctor's office with several months of blurry vision and a constant feeling of being thirsty. She also is feeling like she needs to go to the bathroom "all the time". She is even waking up several times a night to urinate. She has been very tired for the past several months and seems to have a headache almost daily. She has tried taking acetaminophen and ibuprofen at home, but they do not seem to help.

Medications:

- Tylenol 650 milligram tablet every 4 hours as needed for headache/pain
- Ibuprofen (Motrin) 400mg tablet every 6 hours as needed for headache/pain

Allergies: No Known Drug Allergies (NKDA)

PMH (Past Medical History):

- Obesity (BMI 30)

PSH (Past Surgical History):

- Cholecystectomy (Gallbladder removal) in 2011 after Choledocholithiasis (Gallstones)

FHx (Family History):

- Her 5 sisters all have Diabetes
- Her Father, age 61, has Diabetes and has had several Myocardial Infarctions (Heart Attacks)
- Her Mother, age 59, has Diabetes and has kidney problems and eye problems

SocHx (Social History):

- Lives with her daughter, Aintshe, who is 13 years old. Betty does not smoke cigarettes (never has), and does not drink Alcohol. She has never used drugs.
- She works at the US Postal office in Cranston

ROS (Review of Systems):

- *Constitutional*: Positive for fatigue, increased appetite
- *Head, Ears, Eyes, Nose, Throat (HEENT)*: Negative for blurry vision. Negative for light sensitivity, rhinorrhea (runny nose), ear pain
- *Neck*: no neck pain or swelling
- *Cardiovascular*: Positive for occasional palpitations/racing heart rate; Negative for chest pain/pressure
- *Respiratory*: Negative for cough, wheezing, shortness of breath, cyanosis of fingers (blueness)
- *Gastrointestinal*: Negative for nausea, vomiting, diarrhea, constipation, abdominal pain
- *Genitourinary*: Positive for increase urinary frequency and urgency; Negative for dysuria (pain with urination), negative for hematuria (blood in urine)
- *Extremities*: Positive for occasional numbness in legs; Negative for edema (swelling in lower extremities)

VS (Vital Signs):

Temperature: 98.1 degrees Fahrenheit, *Blood Pressure (mmHg)* 142/72, *Heart Rate*: 86 bpm, *Respiratory Rate*: 16, *Pulse oximetry*: 96% on Room Air, Height 154cm, Weight 80 kilograms, BMI 33.7 (weight in kilograms divided by height in meters squared)

PE (Physical Exam):

General: Alert, oriented to person, place, time, NAD (no acute distress)
HEENT: PERRLA (pupils equal, round, reactive to light and accommodation), EOMI (Extraocular movements intact), Fundoscopic exam is normal, Dry mucosal membranes, good dentition,
Cardiovascular: Normal S1 and S2, Regular rate and rhythm, no murmur, gallop, rub, heave, or thrill
Pulmonary: Lung fields clear to auscultation bilaterally, no crackles or wheezes
Abdominal: Normoactive bowel sounds, soft, NT (non-tender), ND (non-distended), no HSM (hepatosplenomegaly, enlarged liver or spleen)
Extremities: WWP (warm and well perfused), no sores/lesions on feet
Neurological: Sensation to light touch grossly intact. Normal monofilament exam.

Labs/DI (Laboratory data/Diagnostic Imaging):

- Urine dip notable for 2+ Glucose (sugar), trace protein
- Spot Dextrose-stick: 215
- Hemoglobin A1c: 7.8% (3 month average of blood sugars)

Assessment: *New diagnosis Diabetes Mellitus Type II*

Betty is a 38 year old woman complaining of several months of fatigue, polydipsia (increased thirst), polyphagia (increased appetite), polyuria (increased urination), blurry vision and numbness in her feet. Physical examination remarkable for obesity. She was found to have hyperglycemia (elevated blood sugars). Her laboratory testing confirmed hyperglycemia and showed an elevated A1C level, glucosuria (sugar in the urine), and trace proteinuria (protein in the urine). Her presentation is consistent with Diabetes Mellitus.

Plan:

1) Provide Education on the **Diagnosis of Diabetes Mellitus**

Answer Aintshe's question, "How do doctors diagnose Diabetes?"

Doctor: "There are several ways to diagnose diabetes. It is defined by a fasting (no food or sweetened drinks for 8 hours) blood glucose level greater than 126mg/dl, a random blood sugar level greater than 200mg/dl with the classic symptoms of diabetes, or hemoglobin A1c greater than 6.5%. In people without symptoms, an abnormal fasting glucose or hemoglobin A1C should be repeated on a different day to confirm the diagnosis. Diabetes can also be diagnosed with an oral glucose tolerance test which is often used during pregnancy to screen for gestational diabetes."

Aintshe: "Wow...that's a lot of ways to diagnose one thing. Does my mom have diabetes?"

Doctor: "Yes she does.-Her blood sugars were more than 200 mg/dl with classic symptoms of diabetes (e.g. polyuria, polydipsia, polyphagia, blurry vision, etc.) and her A1C was >6.5%."

<http://www.diabetes.org/diabetes-basics/diagnosis/?loc=db-slabnav>

Aintshe: "Oh, is that why my mom feels tired all the time and is always drinking water?"

Doctor: "Yes, when the blood sugars are elevated one feels the urge to urinate and drink frequently. People can also experience fatigue, blurry vision and numbness in their hands and feet, among other symptoms.

Aintshe: "But Doctor, why does Diabetes happen?"

Doctor: "Diabetes Mellitus is a health problem caused by an issue with the body's ability to make or use insulin. There are mainly two main types of diabetes. In the kind called 'Type I', the pancreas that makes insulin does not work right and cannot make insulin, so the blood sugar stays high after eating. In the other type of Diabetes Mellitus, (the Type II kind), the pancreas makes insulin after eating, but the body is bad at responding to it, so the sugar stays high. The sugar is usually used by the brain, muscles, and practically all organs of the body to help them make energy and function. A blood sugar that is too high

can cause a person be very thirsty, to urinate more than usual, and to be more hungry than usual. These lead to the symptoms of *polydipsia* (increased drinking/thirst), *polyuria* (urinating a lot), *polyphagia* (eating a lot).

Aintshe: "Can Diabetes cause health problems over time?"

Doctor: "Yes, if the body is exposed to high blood sugar regularly, over years certain body parts can be damaged. Damage to a person's eyes results in **diabetic retinopathy**, which causes vision problems. The retina is specialized tissue in the back of the eyes that aids in the ability to see. Damage to a person's kidney results in **diabetic nephropathy**, which can cause kidney problems. These kidney problems can decrease the ability of the kidney to make urine and filter the blood. When this ability is damaged severely, dialysis is sometimes required, which is a way to clean the blood using a machine. Damage to a person's nerves results in **peripheral neuropathy**, which is felt as numbness, tingling, or sometimes burning. Damage to a person's heart result in heart disease, which causes issues such as **heart attacks, strokes, and poor healing**. This comes from blocking and hardening of the blood vessels, which hinders blood from bringing oxygen to the heart, brain, and the body at large.

Aintshe: "You mentioned Hemoglobin A1c. You said my mom's is high...what IS that?"

Doctor: "Just like the other parts of the body, the high blood sugars in diabetes can damage the red blood cells. These cells are the ones responsible for carrying oxygen around the body. They are sometimes called 'RBCs.' The part of these cells that carries the oxygen is call **Hemoglobin**. When the blood sugar is high, **Glycosylation** can happen, which is when sugar reacts with the hemoglobin, attaching to it. This is a permanent reaction that lasts for the entire life of a red blood cell, which is 120 days (3 months). This is why it is the best way to get a sense of how high a person's blood sugars have been in the past 3 months. The higher the A1c, more time hemoglobin has been exposed to higher blood sugars."

Aintshe: "If I want to read more about my mom's diabetes, where can I go?"

Doctor: "You can always ask your doctor, but I also recommend these:"

- <http://www.diabetes.org/diabetes-basics/>
- <http://www.diabetes.org/living-with-diabetes/complications/?loc=lwd-slabnav>
- <http://www.cdc.gov/diabetes/pubs/statsreport14/national-diabetes-report-web.pdf>

"I will continue the discussion on the biology of diabetes, how to best treat diabetes through lifestyle, and the importance of preventative screening at subsequent visits."

Follow up:

- After a discussion with the patient, she has agreed to start an oral hypoglycemic (sugar lowering) medication. Will prescribe Metformin 500mg twice a day and see her in two weeks to check for side effects (upset stomach, nausea, etc.)
- On Friday with Diabetes Educator for counseling, and in 2 weeks with me to arrange for her preventative health screening follow up visit.



Reading list:

<http://www.diabetes.org/diabetes-basics/diagnosis/?loc=db-slabnav>

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<http://www.cdc.gov/diabetes/pubs/statsreport14/national-diabetes-report-web.pdf>

Teacher Note: