

From Symptoms to Diagnosis: A Medical Student's Experience in Solving Her Own Mystery

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Introduction

As a medical student, you are thrown into a field that requires astute pattern recognition and memorization of any disease or condition that could disrupt the human body. Your priority is to acquire as much knowledge as possible regarding the signs, symptoms, and presentations of common and rare afflictions alike. Oftentimes, this knowledge holds the power to eventually recognize minute details of an individual and identify what has shaken their body from their baseline health. However, what happens when a medical student feels an ache in their body similar to the one they have been learning about? What might go through their head when their own symptoms line up with cases from their textbooks? While it is true that medical students often mistakenly identify themselves with symptoms they do not possess, the set of skills they acquire through years of schooling may sometimes help provide the answers they are searching for.

I remember beginning my third year of medical school with an unwavering enthusiasm for what I was about to encounter. That was the year we started clinical rotations, which was when we finally got to put years of book learning and simulations into practice with real patients. A few months into my clinical training, I became aware of an overwhelming fatigue that I confronted every day, despite increasing the number of cups of coffee. I quickly dismissed how I felt and attributed it to the endless cycle of early mornings, long days, and late-night study sessions. However, I realized that no amount of sleep gave me relief and my evening naps became longer and longer. This fatigue lasted months and I could not seem to shake it. At this time, I began to further investigate my body and its symptoms. I noticed that I became cold very easily and my eyes were paler than usual. Finally, I saw my doctor who told me after some basic blood work that my tiredness was most likely due to an iron-deficiency anemia because that was common in young women my age.

As luck would have it, I started my internal medicine clinical rotation on the benign hematology subspecialty. It had been months since my doctor had diagnosed me with iron deficiency anemia, but no amount of iron pills or diet change had relieved my fatigue. I still felt as though something was not right. After weeks of working closely with the best hematologists at my

hospital, I heard an offer I could not pass up, "Would you like to look at your own blood under the microscope at my clinic?"

For some reason, I felt the weight behind that statement. Through my schooling and clinical experience thus far, I had all the skills to look at a peripheral blood smear and understand a patient's diagnosis. I could glance at blood cells and know immediately what the patient was probably experiencing, how they might be feeling, and how to best treat them. I had never had the chance to look closely at my own blood, but I felt like this was the chance to see clearly what was going on with me from the inside. I made a blood slide and slowly adjusted the powerful microscope to view the smallest parts of me. Instantly, I knew. I knew what was causing my fatigue and saw what I had only ever seen in textbooks. Clear as day, I saw that my red blood cells were small, pale, and misshapen. Lectures on microcytic anemia flooded my mind as I examined the slide filled with characteristic "target" cells. Only two things cause microcytic anemia – iron deficiency and thalassemia – and only one of them causes target cells. I saw thalassemia, a genetic mutation affecting an important protein involved in creating healthy red blood cells. The reason for months of exhaustion was no longer intangible, it was as lucid and real to me as a broken arm or stubbed toe ([Figure 1](#)).

After further testing I received the diagnosis of " β -thalassemia," which is a genetic condition of varying severity that affects 1.5% of the population worldwide.¹ β -thalassemia is an inherited hemoglobinopathy, which means that it causes defects in the synthesis of normal hemoglobin that can lead to small, ineffective red blood cells.¹ Specifically, I had a mild form of β -thalassemia, called β -thalassemia minor, which is clinically asymptomatic unless certain stressors are present.² It is important to note that I could not have determined the exact subtype of thalassemia on my own without seeking further care from my doctor. Self-diagnosis is not the end, but the beginning; the purpose of having an awareness of your health is to recognize the need for further evaluation, and not to stop at a preliminary diagnosis.

Although it will not cause major health problems in my life, the importance of establishing this diagnosis was quickly discovered. Upon learning that I had this "thalassemia trait," I found out that

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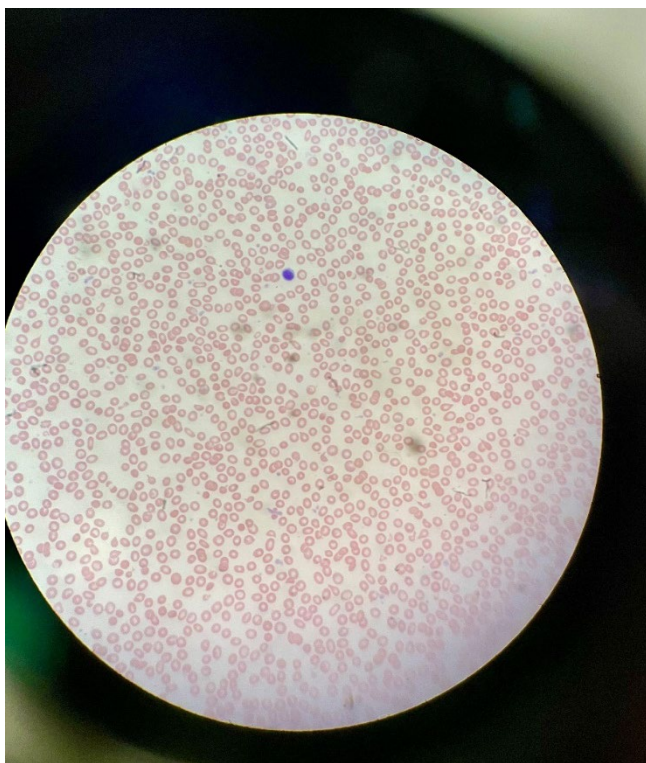
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my mother also has a mild form of β -thalassemia, which opened a conversation about her genetic and ethnic background. I also had to make sure that my partner did not have a similar genetic mutation, or there could be potential effects in our future children. Furthermore, I had to stop taking iron supplements because thalassemia can lead to a state of iron overload, which could be dangerous. Though there is no way to "treat" my fatigue, I now knew the cause of my symptoms and learn ways to better work around them.

Figure 1. A Window to The Body. The Image Depicts My Peripheral Blood Smear that I saw Through the Lens of a Powerful Microscope.



Medical students may be tempted to diagnose themselves with everything they are studying, even if they are experiencing no symptoms.³ Colloquially called "medical student syndrome," it is a common experience that unites all well-studied new learners. However, my story serves as a reminder to not immediately dismiss the small voice that questions the status of your health. While we, as students, should stay away from anxiously diagnosing our own bodies with potentially irrational conditions, it is important to recognize that we are actively being taught to constantly recognize and synthesize a plethora of medical information. Careful consideration of this information and an educated awareness of the situation are critical to distinguish between a case of medical school syndrome and an actual disease. Although it is important to recognize that true abnormalities may not be present in our own bodies, I think that our unique medical training supplies us with the knowledge to identify variations from our baseline and find patterns that we would not have otherwise seen.

Summary – Accelerating Translation

Title: From Symptoms to Diagnosis: A Medical Student's Experience in Solving Her Own Mystery.

This experience highlights a third-year medical student's journey in using her new knowledge and clinical skills to identify whether or not the symptoms she began to notice in herself were only pieces of a larger picture. Her main problem to solve was the cause of her ongoing fatigue. This experience documents her moment of realization of her actual diagnosis. The aim of this story is to discuss the common feeling of "medical school syndrome," and bring awareness to the reality that a medical student's perception of their own body might be more credible than they think.

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