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

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Discussion Points: What happens when you start to believe you might have a diagnosis that you are learning about? Do you dismiss it or go on to investigate further? #MedicalStudentSyndrome #MedStudent

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1 **ABSTRACT.**

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3 While studying medicine, students may find themselves worrying that they have a disease just because they
4 have been closely learning about it. However, what happens when a medical student is actually experiencing
5 symptoms that are familiar to them? This essay highlights the experience of a third-year medical student who
6 found the answers she was looking for regarding her own health while on clinical rotations.

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8 **Key Words:** Experience, Medical education, Medical student, Diagnosis

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1 THE EXPERIENCE.

2
3 As a medical student, you are thrown into a field that requires astute pattern recognition and memorization of
4 any disease or condition that could disrupt the human body. Your priority is to acquire as much knowledge as
5 possible regarding the signs, symptoms, and presentations of common and rare afflictions alike. Oftentimes,
6 this knowledge holds the power to eventually recognize minute details of an individual and identify what has
7 shaken their body from their baseline health. However, what happens when a medical student feels an ache in
8 their body similar to one they have been learning about? What might go through their head when their own
9 symptoms line up with cases from their textbooks? While it is true that medical students often mistakenly identify
10 themselves with symptoms they do not possess, the set of skills they acquire through years of schooling may
11 sometimes help provide the answers they are searching for.

12
13 I remember beginning my third year of medical school with an unwavering enthusiasm for what I was about to
14 encounter. This year was the start of clinical rotations, which is when we finally get to put years of book learning
15 and simulations into practice with real patients. A few months into my clinical training, I became aware of an
16 overwhelming fatigue that I confronted every day, despite increasing cups of coffee. I quickly dismissed how I
17 was feeling and contributed it to the endless cycle of early mornings, long days, and late-night study sessions.
18 However, I realized that no amount of sleep gave me relief and my evening naps became longer and longer.
19 This fatigue lasted months and I could not seem to shake it. At this time, I began to further investigate my body
20 and its symptoms. I noticed I became cold very easily and my eyes were paler than usual. Finally, I saw my
21 doctor who told me after some basic blood work that my tiredness was most likely due to an iron-deficiency
22 anemia because that was common in young women my age.

23
24 As luck would have it, I started my internal medicine clinical rotation on the benign hematology subspecialty. It
25 had been months since my doctor had suggested I had iron deficiency anemia, but no amount of iron pills or
26 diet change had relieved my fatigue. I still felt as though something was not right. After weeks of working closely
27 beside the best hematologists at my hospital, I heard an offer I could not pass up, "Would you like to look at
28 your own blood under the microscope at my clinic?"

29
30 For some reason, I felt the weight behind that statement. Through my schooling and clinical experience thus
31 far, I had all the skills to look at a peripheral blood smear and understand a patient's diagnosis. I could glance
32 at blood cells and know immediately what the patient was probably experiencing, how they might be feeling,
33 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
34 the chance to see clearly what was going on with me from the inside. I got a blood slide made and slowly
35 adjusted the powerful microscope to view the smallest parts of me. Instantly, I knew. I knew what was causing
36 my fatigue and I saw what I had only ever seen in textbooks. Clear as day, I saw that my red blood cells were
37 small, pale, and misshapen. Lectures on microcytic anemia flooded my mind as I examined the slide filled with
38 characteristic "target" cells. Only two things cause microcytic anemia – iron deficiency and thalassemia – and
39 only one of them causes target cells. I saw thalassemia, a genetic mutation affecting an important protein
40 involved in creating healthy red blood cells. The reason for months of exhaustion was no longer intangible, it
41 was as lucid and real to me as a broken arm or stubbed toe (**Figure 1**).

1

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

10

11 Although it will not cause major health problems in my life, the importance of establishing this diagnosis was
12 quickly discovered. Upon learning that I had this “thalassemia trait,” I found out that my mother also has a mild
13 form of β -thalassemia, which opened a conversation about her genetic and ethnic background. I also had to
14 make sure that my partner did not have a similar genetic mutation, or there could be potential effects in our
15 future children. Furthermore, I had to stop taking iron supplements because thalassemia can lead to a state of
16 iron overload, which could be dangerous. Though there is no way to “treat” my fatigue, I now knew the cause
17 of my symptoms and learn ways to better work around them.

18

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

1 **SUMMARY - ACCELERATING TRANSLATION**

2

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

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5 This experience highlights a third-year medical student's journey in using her new knowledge and clinical skills
6 to identify if the symptoms she began to notice in herself were only pieces of a larger picture. Her main problem
7 to solve was the cause of her ongoing fatigue and this experience documents her moment of realization of her
8 true diagnosis. The aim of this story is to discuss the common feeling of "medical school syndrome," and bring
9 awareness to the reality that a medical student's perception of their own body might be more credible than they
10 think.

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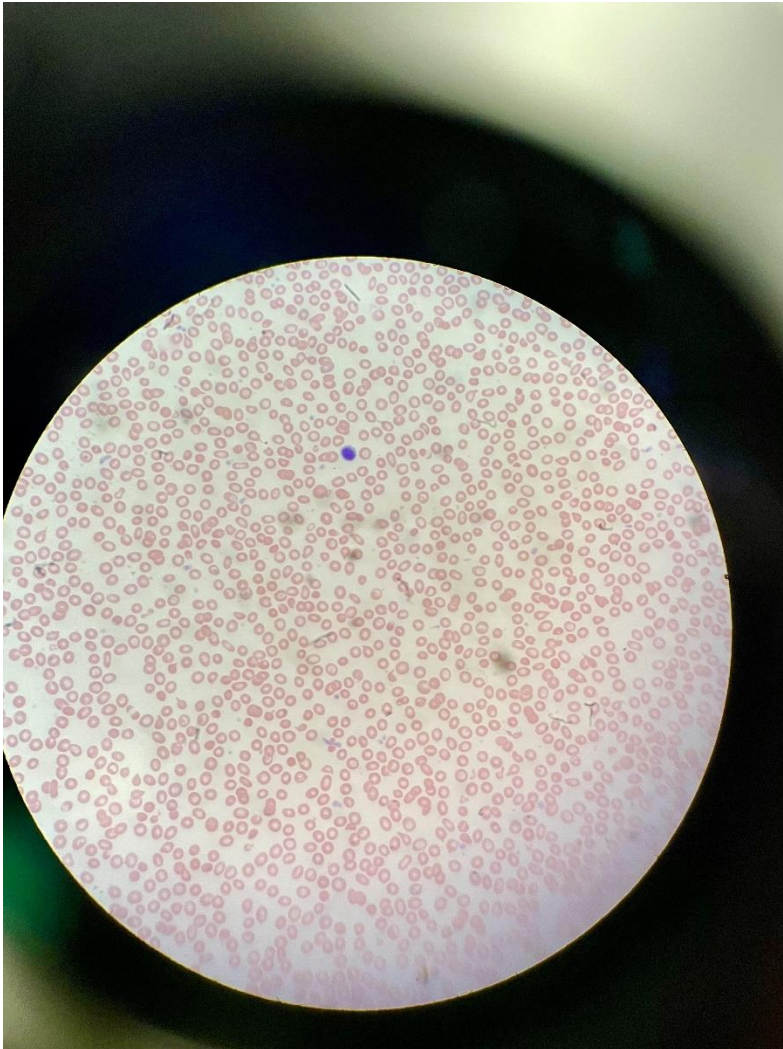
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1 **FIGURES AND TABLES.**

2

3 **Figure 1.** A Window to the Body. The image depicts my peripheral blood smear that I saw through the lens of
4 a powerful microscope.

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