

Recurrent Fevers with Weight Gain - Possible Rapid onset Obesity with Hypoventilation, Hypothalamic Dysfunction and Autonomic Dysregulation Syndrome

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Abstract : The approach to recurrent fevers in the paediatric or adolescent age group is not a straightforward one. Causes range from infectious diseases to rheumatological conditions to endocrinopathies, and are usually accompanied by weight loss rather than weight gain. We present an interesting case of a 16-year-old girl brought by her mother to the General Pediatrics Clinic for concerns of recurrent fever paired with significant weight gain over 1.5 years, with no identifiable cause found despite extensive work-up by specialists ranging from Rheumatologists to Oncologists. This case provides a learning opportunity on the approach to weight gain paired with persistent fevers in a paediatric population, one which is not commonly encountered and prompts further evaluation and consideration of less common diagnoses. In a span of 2 years, the girl's weight had increased from 55 kg at 13 years old (75th centile) to 73.9 kg at 16 years old (>97th centile). About 1 year into her rapid weight gain, she started developing recurrent fevers of documented temperatures > 37.5 - 38.6 every 2-3 days, resulting in school absenteeism when she was sent home after temperature-taking in school found her to be febrile. The rapid onset of weight gain paired with unexplained fevers prompted the treating physician to consider the diagnosis of ROHHAD syndrome. Rapid onset obesity with hypoventilation, hypothalamic dysfunction and autonomic dysregulation (ROHHAD) syndrome is a rare disorder first described in 2007. It is characterized by dysfunction of the autonomic and endocrine system, characterized by hyperphagia and rapid-onset weight gain. This rapid weight gain is classically followed by hypothalamic manifestations with neuroendocrine deficiencies, hypo-ventilatory breathing abnormalities, and autonomic dysregulation. ROHHAD is challenging to diagnose with and diagnosis is made based mostly on clinical judgement. However if truly diagnosed, the condition is characterized by high morbidity and mortality rates. Early recognition of sleep disorders breathing and targeted therapeutic interventions helps limit morbidity and mortality associated with ROHHAD syndrome. This case poses an interesting diagnostic challenge and a diagnosis of ROHHAD has to be considered, given the serious complications that can come with disease progression while conditions such as Munchausen's or drug fever remain as diagnoses of exclusion until we have exhausted all other possible conditions.

Keywords : pediatrics, endocrine, weight gain, recurrent fever, adolescent

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