

Refractory Asthma: A Case with a Missing Bridge Between Inpatient and Outpatient Specialty Asthma Care



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This feature is a case report with particular attention given to highlighting any social determinants of health that are relevant to the case. It is coordinated by Tamara Perry and Editorial Board Member Julie Wang in collaboration with the AAAAI Committee on the Underserved.

CASE STUDY

Patient factors and experience can prevent adequate asthma care. We present the case of a 38-year-old Black man with a medical history of atopic dermatitis, chronic rhinosinusitis, gastroesophageal reflux disease, type 2 diabetes mellitus, and a history of long-lasting uncontrolled, steroid-dependent asthma.

CASE

The patient was a father to two young children with severe persistent asthma, severe atopic dermatitis, and multiple food allergies treated in our clinic. He was skeptical in the first few visits and repeatedly said “There is no hope. I know this disease. I grew up with it. They have very bad asthma and will grow up like me, always short of breath and in the ED [emergency department].” With time, as he witnessed his children’s asthma improving, his attitude slowly changed and his trusted primary care doctor convinced him to make an allergy appointment for himself. It took him three scheduled visits finally to complete one. He left the office twice before the visit was completed because he could not tolerate waiting in the examination room, anticipating a physical examination or breathing test.

The patient’s asthma was diagnosed in early childhood, with an estimated two to 10 annual asthma-related ED visits. He had been intubated countless times for asthma and recalled spending days in the ED, hospital bed, or intensive care unit in respiratory distress while being severely frightened of needles. He rarely saw a pediatrician in the office and was not seen by a specialist as a child. This was partly driven by frequent gaps in public insurance coverage, financial restriction for uncovered health care expenses, and a lack of access to safe transport. The patient’s poor asthma

control as well as increasing safety issues in his neighborhood and public sport facilities prevented him from playing his favorite sport, basketball. With repeated need for systemic corticosteroids and a lack of exercise, he gained weight, developed diabetes mellitus in his twenties, and by age 35, was insulin dependent. In addition to asthma, he was given the diagnosis of chronic rhinosinusitis and nasal polyps at age 30. Surgery was recommended, but he did not follow up with the otolaryngologist owing to the fear of nasal endoscopy or surgery.

Initial spirometry in our office showed an FEV₁/FVC ratio of 0.52, FEV₁ and FVC of less than 40% predicted, and FEV₁ with 25% reversibility after albuterol. The Asthma Control Test score was 5 despite high-dose inhaled corticosteroids/long-acting β -agonists (fluticasone propionate 230 mcg/salmeterol xinafoate 21 mcg; 2 puffs twice per day), and montelukast 10 mg daily. After a long, detailed conversation about options, he decided to try one of the treatments his children were receiving. We had to bring him in twice until he agreed to the first injection of dupilumab. He felt better when a Black nurse administered the injection while his children held his hands. After starting dupilumab (600 mg once followed by 300 mg every 2 weeks) with good adherence, the patient’s asthma subjectively improved. Atopic dermatitis also subjectively and objectively improved significantly, sleeplessness and anxiety while improving his mood. Despite these improvements in asthma and atopic dermatitis, continuity of care remained an issue. Because of his needle phobia (trypanophobia), he could not self-administer dupilumab; he also missed scheduled injections. Our front desk staff called him and rescheduled the appointment each time, always acknowledging his difficulties in making it into the office. With these efforts, he returned to clinic. Slowly, the Asthma Control Test score increased to greater than 15, whereas the FEV₁ increased to 72% of predicted. Although asthma control remained suboptimal, he avoided the ED for longer than 6 months, which for him was a personal record.

Black people bear a disproportionate burden of asthma, including a higher prevalence, higher hospitalization rates, and higher mortality.¹ Studies have demonstrated racial differences in the words used to describe asthma symptoms² and health beliefs regarding adherence to asthma medications.³ Black patients may hold negative attitudes about health care⁴ and are less likely to receive adequate medical information and to be included in the decision-making process.⁵ A shared decision-making (SDM) model with health care providers, which is often missing,

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increases adherence to asthma medical (inhaled corticosteroid) therapy.⁶

Optimal asthma outcomes require an understanding of the social determinants of health and individuals' experiences that may affect the perception of the health care system. For this patient, his previous health care experience led to his current reticence to seek medical care. In childhood, routine outpatient care with an asthma specialist could not be established after the patient was discharged because of a lack of adequate access to primary care and almost no access to a specialist in his community. Furthermore, his family was unaware of the specialty of allergy and immunology and its role in the control of asthma. This resulted in poor asthma control and more ED visits and hospitalizations. Extended wait times in small examination rooms and repeated intravenous therapies resulted in claustrophobia and trypanophobia. He reported how school and work absences led to productivity loss, and isolation from his friends and recreational activities negatively affected his mood. Inadequate asthma education during his inpatient visits led to confusion about home asthma medications. Conversely, he reported feeling blamed by his health care team for recurrent asthma exacerbations. His experience is unfortunately not unique. Physicians are reported to be more contentious with Black patients, whom they perceived to be less effective communicators and less satisfied with care.⁷

Urban minority children have more asthma symptoms, more absences, poorer control, and more health care use, yet lack access to specialists.⁸ For patients with severe asthma, their relationship with the specialist who can observe them in the outpatient setting should start during the ED visit or hospital admission, to build trust and facilitate outpatient care. A trusted primary care physician can be a vital asset in bridging communication gaps. Furthermore, increasing the number of underrepresented minority nurses and physicians could reduce health care disparities, because studies have demonstrated that these providers exhibit less implicit race bias.⁹ Taking a patient-centered approach during outpatient specialty visits is important to address patients' needs and misbeliefs and create hope. This includes the entire health care workforce, such as clerical staff, nurses, medical assistants, asthma educators, and physicians.

PRACTICAL TIPS

As asthma specialists, we must tailor care to individual patients and their perspective and relate to our patients with an understanding regarding missed appointments and nonadherence to medications. Establishing a relationship with an asthma specialist

who communicates effectively with primary care and ED providers during an inpatient encounter can be vital to prevent prolonged lifelong uncontrolled asthma. This must start in the ED or at the time of discharge from the hospital and continue with an appointment with an outpatient specialist who has preferably visited the patient during the inpatient or ED encounter. In our experience, making appointments before discharge for upcoming office visits that are compatible with the caregivers' or patients' work schedule, and calling families to remind them before the appointment, has facilitated the transition to an outpatient specialist. Planning these visits during an inpatient encounter and involving social workers or case managers can address other obstacles such as transportation. Planning effective long-term treatment depends on patient adherence, which is possible only through SDM and rapport created with patients and caregivers. Some newer asthma therapeutics such as biologics that are given as injections are associated with more phobia; these need to be discussed and planned through SDM. Furthermore, accommodations should be made, when possible, to address phobias that developed as a result of chronic and repeated frightening encounters during severe situations in the ED and hospital. Other essential services include coordination with specialty pharmacy or alternative payer resources to ensure that constraints with finances and medication delivery are addressed.

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