

PATIENT CASE REPORT

📄 Patient Report: Autism Spectrum Disorder Treated With Camel Milk

患者报告：使用骆驼奶治疗自闭症谱系障碍

Informe de paciente: trastorno del espectro autista tratado con leche de camella

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Disclosure

Ms Adams completed the ICMJE Disclosure Form for Potential Conflicts of Interest and had no conflicts related to this work to disclose.

BACKGROUND

This patient report is about my son, who was diagnosed with autism spectrum disorder (ASD) at 3 years of age, and the effects I observed when he began drinking camel milk daily. Beginning at age 9, he drank one half cup of raw camel milk a day and experienced overnight an improvement in his symptoms. His continued regular consumption of camel milk was associated with sustained symptom improvements for 6 consecutive years (2007-2013). This patient report is a road map of my navigations, consultations with experts and autism care providers, and the apparent effect of camel milk on autism spectrum disorder (ASD).

INTRODUCTION

As an infant, my son appeared normal and met the generally accepted growth and development milestones. He was calm and attentive, smiled at 6 weeks, laughed, and could focus on books and toys. He was affectionate and bonded with his parents and always showed appropriate separation anxiety. He spoke two clear words at 9 months and walked on his first birthday. However, beginning at 6 months, he started biting people and never pointed to objects. He also had very red cheeks, constipation, prolonged startle reflex, and infant torticollis.

EARLY AUTISM

Just before he turned 3 years old, my son was diagnosed with autism. He had loss of language and attention at 15 to 18 months, the appearance of hyperactivity, sensitivity to noise, and fixation on objects and water. He had difficulty interacting with others, was still biting and engaging in aggressive behavior, and had been dismissed from two preschools. Like many ASD children, he was found to have food intolerances and allergies, skin conditions, auditory processing delay, expressive/receptive language delay, constipation, and an intermittent tic disorder.

After the diagnosis and continuing for years, he received a battery of tests including complete physical exams, electroencephalograms, neurological and sensory evaluations, auditory testing, and stool and urine testing for heavy metals, amino acids, organic acids, intestinal parasites, and *Candida*. Laboratory tests were ordered, including complete blood counts, metabolic

Editors' Remarks

In this patient report, a mother shares her observations and assessment of the effectiveness and safety of camel's milk for her autistic son. We believe this patient report helps to communicate her experience of the care her family received. It will also inform clinicians about how patients experience the care they provide. We support reporting the patient's perspective.

profiles, and tests for immune-globulins and inflammatory markers. He also received regular vaccination through 15 months.

My son was enrolled in 35 to 40 hours per week of intensive one-on-one therapy at our home in a clinically supervised program of applied behavioral analysis (ABA). He also had 3 hours per week of individual speech therapy and 2 hours per week of occupational therapy. His diet was gluten- and casein-free for 2 years with limited intake of sugar, yeast, and nuts. His medications included various antiviral (famciclovir, valaciclovir) and antifungal medications (nystatin, ketoconazole, amphotericin-B), selective serotonin reuptake inhibitors (SSRIs; citalopram, escitalopram) and blood pressure-reducing medication (guanfacine) to decrease hyperactivity and aggression. These medications, used daily and mostly added one at a time for careful observation, seemed to be beneficial. The combination of his treatments produced positive benefits that were confirmed in twice-monthly ABA clinic meetings, daily ABA data gathering, and pediatric ASD specialist office visits. As many children make limited gains with similar treatments, this progress earned my son a reputation as a "responder" in autism parlance.

By age 5, this hard-working child had demonstrated significant improvement, passed the kindergarten readiness test, and began attending a public school with a shadow aide. ABA therapy dropped to 3 hours per week. He later attended a school for children with attention deficit/hyperactivity disorder with weekly social skill sessions and participated in lessons and activities outside our home with and without an aide. His schoolwork was at or above grade level with the anticipated exception of hand-

writing. Although he needed intermittent supervision to stay on task, his cognitive scores were all above average. He continued to struggle with prolonged eye contact, and his conversations, while inquisitive and mutually engaging, were sometimes inattentive and monologue-style. Nevertheless, he was bright and friendly and enjoyed social contact and outings with peers and friends. Interestingly, when he ate dairy products around age 7, even pizza with the cheese removed at a baseball game, he would develop many symptoms. Hand-flapping, circle and toe walking, inattention, and constipation would result within hours, and he once complained, "It feels like there's dirt in my brain." Though he had returned to gluten 2 years after his ASD diagnosis with no outward effects, he avoided dairy products and kept his sugar intake low.

Despite this remarkable progress, at age 9, my son began to have significant behavioral issues: sudden hyperactivity, loss of attention, distracted language, and loss of self-regulation. These symptoms were exacerbated when he had not eaten for 2 to 3 hours. Visits to his treating ASD physicians, titration of existing medications, and additional dietary measures did not seem to help. A trial of SSRI (fluoxetine) made him dazed and anxious and seemed to worsen the behavioral issues. It was becoming difficult to prompt and cope with his actions as discipline and safety techniques were no longer effective. As his mother, I was increasingly taxed and my outlook was becoming ominous.

TREATMENT WITH CAMEL MILK

On October 10, 2007, 2 weeks before my son's tenth birthday, he drank his first half cup (4 oz) of thawed raw unheated camel milk. I chose this course because I had spent the previous 2 years studying camel milk and consulting people familiar with its use. In fall 2005, a camel farmer spoke to me about the use of camel milk in Middle Eastern hospitals for premature babies due to its reputed nonallergenic and nutrient-rich qualities. That information led me to theorize the milk might strengthen my son's immune system and thus improve his functioning and also serve as an alternative dairy product. I reviewed the scant literature that evening and over the next few months. In 2006, I found Dr Reuven Yagil's brief 2005 report on several children with ASD responding positively to camel milk. I then consulted Israeli-American scientist Amnon Gonenne, PhD, on his theory that camel milk may act as an anti-inflammatory agent and might help my son. Reassured by anecdotal reports and conversations with healthcare providers and camel milk producers, I concluded the risk of trying camel milk was minimal. One of my son's physicians signed a letter authorizing his need to consume camel milk. I then arranged to receive bottles of raw frozen camel milk from Israel. The camel milk was tested for the presence of bacteria prior to freezing, stored at -20°

C, and then shipped by air to me.

On the morning after my son ingested camel milk, he demonstrated astonishing improvements in behavior including eye contact, communication, emotional expression ("I really love you; you're awesome; you do so much for me"), and self-organization. He ate breakfast more neatly, noted his schedule, put on his shoes, and got his backpack for school while conversing at the same time.

He continued consuming 4 oz of camel milk daily with rapid continued improvement in behavior and motor planning. For example, he started looking both ways when crossing streets and parking lots. His erratic behavior stopped, and my frequent offerings of extra protein, which had only somewhat mitigated the problem, were no longer needed. Within 3 weeks, there was also a marked improvement and smoothing of his skin condition. Increasing the daily amount of camel milk to 8 oz seemed to cause new facial grimaces and jerking in one arm, which disappeared when his intake returned to 4 oz. His pragmatic language and vocabulary skills were improved, and other academic skills tested above average and exceptional in some areas.

Interruption of camel milk consumption on several occasions resulted in behavioral and physiological lapses. Just before he turned 12, while I was away from home for two and a half weeks, he did not take camel milk. His school behavior deteriorated to the point that he was in danger of being moved to a special education classroom. Within 24 hours of resuming the camel milk intake, he returned to prior functioning levels. From age 12 to 16 years (present age), he continued on variable amounts of camel milk from Israel and later from the United States, along with conventional medications.

Camel milk has offered observable and sustained benefits to my son's health and functioning. Along with medications and dietary management, I believe camel milk has contributed to the successful management of his symptoms. My son views camel milk positively and is reassured to know he can always access it.

A MOTHER'S PERSPECTIVE

Children with ASD present multiple lifelong challenges. For such a catastrophic and increasingly prevalent disorder, medical treatment and care is debatable, confusing, and expensive. My son's immune and behavioral responses often correlated to dietary matters. Camel milk, a natural food suitable for premature infants, intrigued me as possibly having inherent value as a health and food substance. Camel milk as a trial treatment seemed less invasive and costly than specialist care, medications, alternative treatments, and behavioral interventions.

Just as importantly, camel milk's history gave me assurance. Camel milk has been used for centuries as a medicine in Middle Eastern, Asian, and African cultures. Nomadic cultures have reported living off

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camel milk exclusively with no apparent loss of health. The United Nations lauded camel milk's nutritional content in 2006.¹

Although anecdotal information on camel milk exists for a variety of illnesses, documented data related to autism are scarce. Jodie Dashore, a board-certified doctor of occupational therapy in private practice in the United States, has begun documenting behavioral outcomes of ASD children with comorbidities who are ingesting raw camel milk from the United States.

Global attention on the assessment, causes, and treatment of ASD continues to provide parents of autistic children with hope.

My message to parents and physicians would be as follows:

- Intuition of parents and/or patients is critical to pursuing connections between symptoms and potential treatments.
- Communicate all symptoms, even those that seem minute or insignificant, to healthcare providers.
- Affected parents and patients often know when a behavior or symptom is unusual or suspicious.
- Conduct “due diligence” on all therapies, work in partnership with credentialed health providers to assess and ensure safety of new therapies, and always introduce new therapies methodically.
- Document the course of treatment and data from life events with dates and times.
- Camel milk is an available food product with potential therapeutic value. It tastes “just like milk” and can be flavored to preference.

REFERENCE

1. FAO Newsroom. The next thing: camel milk; April 18, 2006. <http://www.fao.org/NEWSROOM/EN/news/2006/1000275/index.html>. Accessed October 29, 2013.