5-5-2022

A King's Secret: The Reason for Regression in a 14-Month-Old Male

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A 14-month-old male with constipation and a recent viral exanthem presents with 8 weeks of progressive gross motor regression. He no longer walks, crawls, or sits unassisted. No loss of social, speech, or fine motor milestones. No fever, rash, cough, congestion, or diarrhea. No known trauma. Family history negative for muscle, nerve, autoimmune, and developmental conditions. He was born abroad and lived on a dairy farm in New Zealand until 5 months ago. Vaccines up to date. Recently exposed to raw honey and a petting zoo.

Neurologic and musculoskeletal exams pertinent for refusal to bear weight or crawl. Resists sitting as well as flexion or extension of hips. Moves all extremities purposefully and spontaneously. Rolls over in both directions. Head lag present. Achilles reflexes 1+ bilaterally. No eyelid drooping, facial asymmetry, or trouble swallowing. Exam was otherwise unremarkable. CBC and iron studies revealed microcytic iron deficiency anemia, thyroid studies showed subclinical hypothyroidism, and mild elevation of CRP and ESR present. Screening metabolic and leukodystrophy workup unremarkable. MRI brain with bilateral confluent T2 signal hypersensitivity in the periventricular white matter. MRI spine notable for destruction of the L2-L3 disc with 4mm fluid collection within the disc space consistent with spondylodiscitis.

Interventional radiology performed disc space aspiration and bone biopsy for culture. Empiric IV cefazolin initiated. Biopsy culture returned positive for Kingella kingae, sensitive to cefazolin. His imaging and culture findings were consistent with a diagnosis of L2-L3 spondylodiscitis. He completed 6 weeks of IV antibiotics. Repeat MRI showed significant improvement with near complete resolution. With ongoing physical therapy he is now crawling, cruising, and sitting with improving endurance.

Spondylodiscitis encompasses both infectious discitis and vertebral osteomyelitis. Common presenting symptoms include back pain, limp, fever, irritability, and refusal to walk. Diagnosis is often delayed in children because of the rarity (estimated 2-4 cases per 1,000,000 per year), but also complicated because of poorly defined manifestations in children who are often not able to vocalize symptoms, requiring a high index of suspicion. The most common pathogen is Staphylococcus aureus, however there has been an increase in Kingella kingae reported in recent literature that must be considered when choosing empiric therapy.