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Pediatric

Spinal cord astrocytoma: a unique presentation of abdominal pain

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ABSTRACT

A previously healthy male presented at age 5 years with recurrent abdominal pain that occurred diffusely. The pain was severe enough to cause episodic screaming, especially at night with spontaneous resolution. The patient was initially treated for constipation but when motor symptoms began to develop, imaging revealed the cause of his pain to be a spinal cord mass. The tumor was treated with steroids, and biopsy confirmed a grade II spinal cord astrocytoma. We describe this unusual presentation of a pediatric spinal cord astrocytoma and review the literature.

Introduction

Recurrent abdominal pain is a common ailment in pediatrics. In the United States, around 15% of children school-aged and older complain of abdominal pain. For up to a quarter of these children, the pain interferes with their everyday activities. The initial differential diagnosis encompasses a wide range of etiologies depending on the presenting symptoms, location, and type of pain. This includes diagnoses such as constipation, functional abdominal pain, and gastroesophageal reflux. Other less common causes include oncological processes such as intra-abdominal masses and, even rarer, extra-abdominal tumors. Here, we describe one of only a few reported instances of recurrent pediatric abdominal pain caused by a spinal cord astrocytoma and perform a review of the literature [1,2].

Case description

This is a 5-year-old male with no significant past medical or family history who presented with severe abdominal pain. The pain was described as periumbilical, intermittent, and worse when lying down. Due to infrequent, hard bowel movements, his symptoms were attributed to constipation and the patient was given daily laxative therapy.

Despite improved frequency and caliber of bowel movements, the patient continued to have abdominal pain that significantly disrupted his sleep. Initial physical examination, including abdominal and neurologic examinations with deep tendon reflexes, did not show any abnormalities. An abdominal/pelvic CT scan was performed to evaluate for an intra-abdominal process which showed a distended colon filled

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with stool and an incidental short segment small bowel intussusception which self-resolved. Laboratories, including a complete blood count, complete metabolic panel, erythrocyte sedimentation rate, and C-reactive panel, were also normal. Due to persistence of his pain, the patient underwent an upper endoscopy and colonoscopy which did not reveal any significant findings.

Two days after his colonoscopy, the patient developed left foot drop, weakness, and an inability to move his toes. He also experienced new onset urinary incontinence. The patient was evaluated by neurology and found to have decreased lower extremity strength (left worse than right), absent lower extremity reflexes, and left foot drop with normal upper extremity reflexes and sensation. Emergent MRI of the lower thoracic and lumbosacral spine demonstrated an intramedullary spinal cord mass extending from his thoracic to lumbar spine (T6 to L1) with an associated syrinx extending up to the brainstem (Figs. 1 and 2). The patient was subsequently started on corticosteroids and underwent laminoplasty from L2 to T6 to debulk the tumor and provide a definitive diagnosis of the lesion. Immediate resolution of abdominal pain occurred after steroid treatment. Pathology confirmed a grade II astrocytoma. Subsequent follow-up with the patient after several weeks in rehabilitation revealed significant neurologic improvement with resolution of foot drop and incontinence. Postoperative imaging

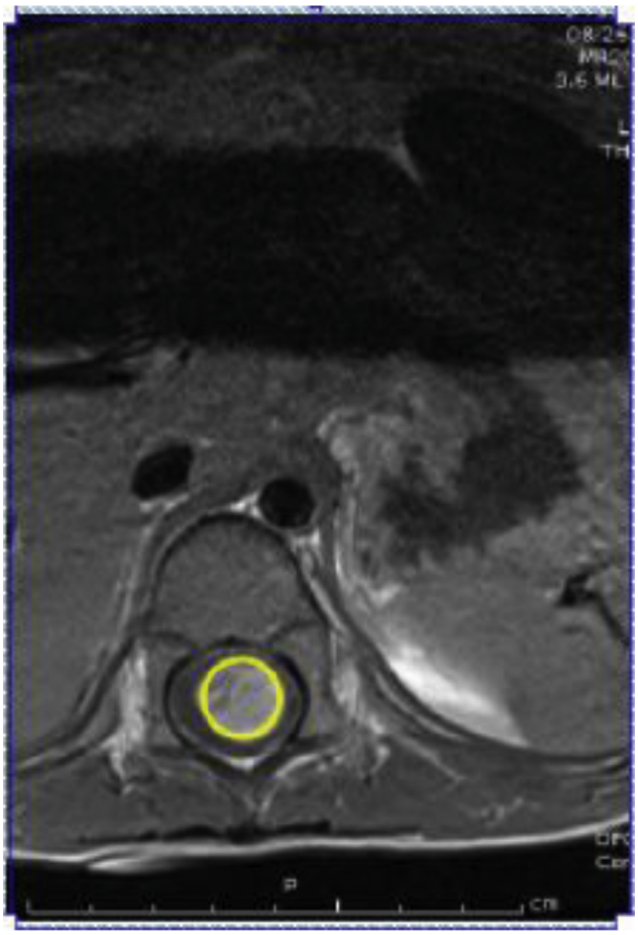

Fig. 1 – Initial axial T1 MRI showing tumor and enlarged spinal cord (yellow circle).

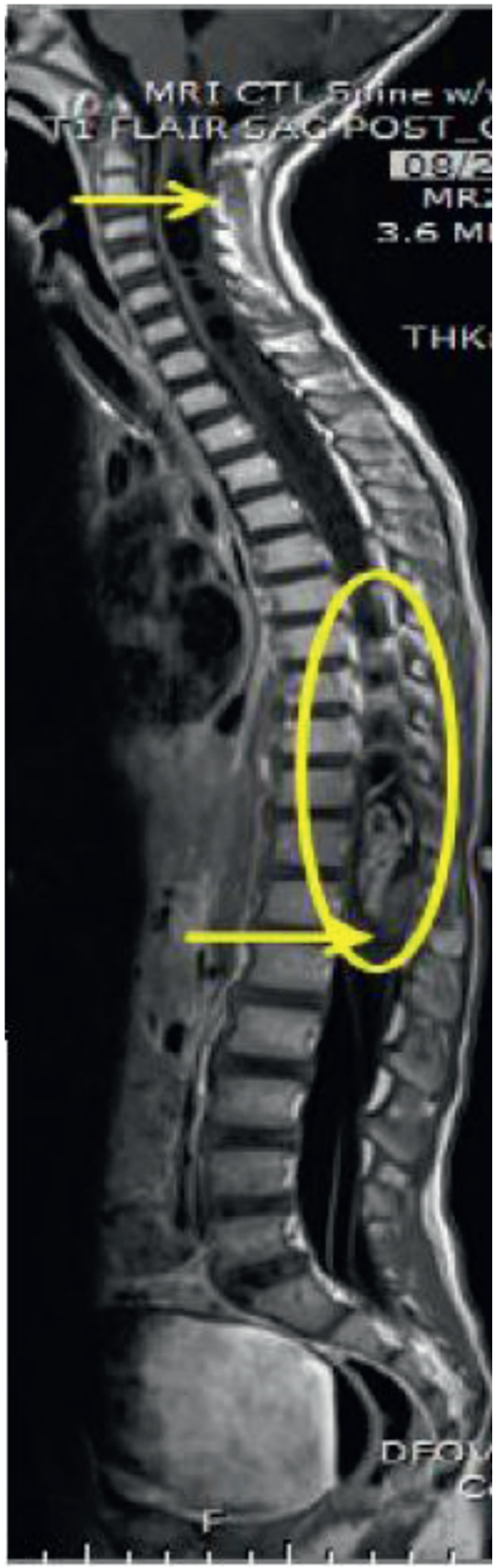

Fig. 2 – T1 sagittal MRI at presentation of neurologic symptoms. Tumor is within yellow circle. Syrinx is in between yellow arrows.