Thoracic Meningioma Masquerading as Chronic Abdominal Pain

Kronik Abdominal Ağrı İzlenimi Veren Torasik Menenjiyom

INTRODUCTION

Reports of abdominal pain associated with intraspinal tumors are rare. However, patients presenting with chronic undiagnosed abdominal pain can be harboring an intraspinal tumor or other mass as the cause for their symptoms. These lesions can occur in all age groups (2,4,5,6,8,9). The majority are in the thoracic spine and represent approximately 1% of all neurological tumors (13). Most of the tumors are benign. Physicians are alert to the possibility of an intraspinal process when patients present with back pain and neurological signs and symptoms consistent with myelopathy or radiculopathy (7). However, patients presenting with unexplained abdominal pain and no neurological symptoms are uncommon and can be challenging to diagnose.

CASE REPORT

A 70-year-old woman presented to our institution with an 18-month history of right upper quadrant abdominal pain. She initially reported right upper quadrant pain that had been present for approximately three months prior to her original presentation. The symptoms were not associated with any nausea, vomiting, diarrhea or weight loss. She had
have been followed for hyperplastic polyps for 12 years and had undergone multiple colonoscopies. These were mainly in the ascending and transverse colon. Previous resection of several of the polyps revealed hyperplasia. She had no complications from any of those procedures. On her routine follow up evaluation, she had noted the onset of the right upper quadrant pain. Imaging studies had demonstrated an asymptomatic gallstone five years earlier. She was referred for consideration of a cholecystectomy for her new symptoms. It was noted that her symptoms were constant and were not related to meals or other activity. She also related more recent episodic sharp pains from just below the breast to the right lower quadrant lasting 30 seconds with spontaneous relief. Continued observation was recommended due to the atypical nature of the symptoms.

The patient was carefully followed over the next 12 months. Imaging studies demonstrated the known gallstone without any change. Standard imaging for an abdominal source of pain would not likely identify a thoracic spinal cord lesion. A hepatobiliary iminodiacetic acid (HIDA) scan showed early visualization of the gallbladder during the first hour and unremarkable tracer transit. Her right upper quadrant pain continued to be episodic, although now with some radiation to the left side. Symptoms did improve with bowel movements. Given the concern that the gallstones were not the source of the pain, a magnetic resonance (MR) imaging study of the thoracic spine was obtained revealing a large enhancing intradural extramedullary mass at T8 (Figures 1, 2). The patient’s neurological exam was essentially normal. She underwent a thoracic laminectomy and resection of a meningioma with intraoperative electrophysiological monitoring. She had some right lower extremity weakness immediately postoperatively which improved with therapy. Her abdominal pain resolved.

**DISCUSSION**

Abdominal pain associated with spinal pathology is more often reported in patients with neurological symptoms either at time of presentation or shortly thereafter (1,3,7,8,10,11,12,14). Spinal cord tumors associated with abdominal pain are rare, but occur in children and adults. In children, pain is a frequent presenting symptom of spinal cord tumors usually occurring over bony segments of the spine (1,3,5,14). However, some children can present with subacute abdominal pain without associated spinal pain (2,11,14). Robertson reported a child with chronic abdominal pain for several months originally diagnosed as irritable bowel syndrome who eventually underwent surgery for an intramedullary spinal cord neoplasm (14). Akiyama and colleagues noted a 15 year old girl with a nearly two year history of recurrent abdominal pain worse during the night and while supine (2). Eventually, she presented with progressive myelopathy and underwent a thoracic laminectomy with resection of an intradural extramedullary ependymoma. Following surgery, her abdominal pain completely resolved. Buck described the case of a 3-year-old female with a several week history of recurrent abdominal pain who underwent thorough gastrointestinal and urological evaluations. No structural pathology was identified and she was eventually diagnosed with functional abdominal pain. When the symptoms continued she...
underwent myelography which identified an intramedullary tumor. Surgical resection of a T5-T10 astrocytoma resulted in resolution of her pain (3).

Reports of adults presenting with undiagnosed abdominal pain and spinal neoplasms or abscesses often have associated neurological symptoms or back pain at the time of presentation (7,12,14). Cases of patients with chronic abdominal symptoms and no neurological symptoms at presentation are rare. Feinstein and colleagues reported on a 71-year-old woman with a four-month history of right upper quadrant pain and extensive negative gastroenterology evaluation (9). Six months after her presentation she developed back pain without neurological symptoms and imaging demonstrated a destructive lesion in the mid-thoracic spinal column. A biopsy confirmed a malignant tumor and she underwent radiation treatment which resulted in improvement of her abdominal and back pain. A 43-year-old man with a two-year history of epigastric and diffuse osseous pain was found to be harboring a thoracic lipoma (6). Three years after surgical resection he remains pain free. The patient reported by Cox and Alter was a 30-year-old man with an eleven-month history of right flank and abdominal pain (4). An exhaustive workup failed to identify a gastroenterological etiology. An MR revealed an intradural extramedullary mass at T11-T12, which, at time of surgery, was found to be a schwannoma. Hershfield reported several different cases of abdominal pain, including nerve entrapment syndrome, diabetic neuropathy, linea alba hernia, idiopathic abdominal pain and a case of a spinal tumor (10). In the case of the spinal tumor, the patient presented with a two-year history of right upper abdominal pain with frequent radiation to the back. Multiple investigations failed to reveal a cause. The neurological evaluation revealed upper motor neuron signs and symptoms. The patient’s symptoms resolved following resection of a T6-T9 malignant neurofibroma.

The vast majority of patients presenting with abdominal pain without a structural or metabolic etiology will not be harboring an undiagnosed spinal tumor. Often, these patients are referred to neurologists and neurosurgeons for inexplicable pain. As our case demonstrates, chronic abdominal pain with atypical features should alert the clinician to consider a structural neurological source for the patient’s pain. A pain history that is inconsistent with gallbladder- or appendix-related syndromes, along with radicular features, may be clues to the possibility of a neurological source of the pain (3,4). Our patient’s chronic intermittent history made the diagnosis elusive. Patients with significant intraspinal lesions and no neurological symptoms can develop neurological symptoms rapidly (1,2,7,9,12). In our case, the mechanism for the radiating abdominal pain was most likely due to thoracic nerve root compression with resultant thoracic radiculopathy and spinothalamic tract injury.

CONCLUSIONS

This case of a thoracic meningioma as the etiology for an 18-month history of undiagnosed abdominal pain highlights the importance of the clinical history and the possibility of a structural neurological cause. Given the rarity of spinal neoplasms presenting with such a history, one should not conclude that all such patients need to undergo spinal axis imaging as part of the workup. Careful clinical analysis and selection are recommended before pursuing a neurological evaluation in chronic abdominal pain patients. However, awareness of atypical clinical features in the setting of a negative gastroenterological evaluation may prompt the neurologist or neurosurgeon to consider a structural neurological etiology, especially in younger children. Magnetic resonance imaging remains the most sensitive diagnostic imaging tool for identifying intraspinal tumors.

REFERENCES