

Gastrointestinal cancer spinal metastases

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Epidemiology

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[Spinal metastases](#) from [gastrointestinal cancer](#) are rare and as a result there are only [case reports](#) or small series in the [literature](#).

The aim of Şelaru et al. was to identify the [demographics](#), the location, and the histopathological aspects of spinal metastases from GI cancers diagnosed and treated in a reference Hospital in [Romania](#) over a period of nine years, and comparing the data obtained with those from the recent literature. In a retrospective case series study on spinal metastases from GI cancers, developed in patients older than 18 years that were surgically treated between January 2013 and December 2021 within three Neurosurgery Clinics from Emergency Hospital Professor Doctor Nicolae Obalu, [Iasi](#), Romania, which is a tertiary Hospital in Romania regarding the surgical treatment of spinal metastases. They included the patient's demographic data (age and gender), clinical data (location of spinal metastases), radiological investigations and pathological features of the lesions. Regarding the immunohistochemical stainings, the following antibodies were used: anti-cytokeratin (CK)7, anti-CK20, anti-CK19, anti-caudal-type homeobox 2 (CDX2), anti-human epidermal growth factor receptor 2 (HER2), and anti-Ki67. The series included 40 adult patients (≥ 18 years old) with a male:female ratio of 3:1, in favor of male patients. The mean age of all patients was 66.42 years. The primary sites of spinal metastases from GI cancers were from all segments of the GI system: the most frequent, however, was from the colorectal level (40%) and the least from the oral cavity level (2.5%). The most common site of spinal metastases from GI cancer was predominantly lumbar region (47.5%), and the most frequent histological type was adenocarcinoma (57.5%), followed by hepatocellular carcinoma (27.5%), [pancreatic ductal adenocarcinoma](#) (5%) and squamous cell carcinoma (2.5%) ¹⁾.

Symptoms

Spinal metastases can cause various symptoms, depending on the location and extent of the tumor. Common symptoms may include:

Back pain: Persistent and worsening pain in the back is a common symptom of spinal metastases. The pain may be severe and may worsen with movement or at night.

Neurological symptoms: As the tumor presses on the spinal cord or nerves, it can lead to neurological problems such as numbness, weakness, tingling, or loss of sensation in the arms or legs.

Difficulty walking or coordination issues: Spinal metastases can affect the ability to walk and maintain balance due to pressure on the spinal cord.

Bowel or bladder dysfunction: In more advanced cases, spinal metastases can cause difficulties in controlling bowel or bladder function.

Fractures: The weakened bones of the spine due to the tumor can lead to fractures, causing sudden and severe pain.

Diagnosis

If a patient with gastrointestinal cancer develops any of the symptoms mentioned above or if there is a suspicion of spinal metastases, a series of diagnostic tests may be performed, including:

Imaging tests: X-rays, MRI (Magnetic Resonance Imaging), CT (Computed Tomography), or PET (Positron Emission Tomography) scans can be used to visualize the spine and identify any abnormalities or tumors.

Biopsy: If a suspicious mass is found, a biopsy may be done to confirm whether it is a metastasis from gastrointestinal cancer or another condition.

Blood tests: Certain blood markers may be elevated in the presence of cancer and can aid in the diagnosis.

Treatment

The treatment of spinal metastases from gastrointestinal cancer is typically a multidisciplinary approach involving oncologists, neurosurgeons, radiation oncologists, and pain management specialists. The treatment plan will depend on factors such as the patient's overall health, the extent of metastasis, and the specific type of gastrointestinal cancer involved. Treatment options may include:

Radiation therapy: This can help shrink tumors and alleviate pain caused by spinal metastases.

Surgery: In some cases, surgical removal of the tumor or stabilization of the spine may be necessary

to relieve pressure on the spinal cord and nerves.

Systemic therapy: Chemotherapy, targeted therapy, or immunotherapy may be used to treat both the primary gastrointestinal cancer and metastases.

Supportive care: Pain management and physical therapy can help improve quality of life and manage symptoms.

Prognosis

The prognosis for patients with spinal metastases from gastrointestinal cancer varies widely based on the stage of the primary cancer, the extent of metastasis, the response to treatment, and the overall health of the patient. Early detection and a comprehensive treatment approach can help improve outcomes and alleviate symptoms. However, spinal metastases are often considered advanced-stage cancer and can be challenging to manage effectively.

By reviewing 26 reported cases of spinal metastasis in GIST, it was found that spinal metastasis of GIST has become more common in recent years, so the possibility of early spinal metastasis should be recognized. CT and MRI are of great value in the diagnosis of spinal metastatic tumors, and pathological biopsy is the gold standard for the diagnosis of metastatic tumors. It is safe and feasible to treat isolated spinal metastasis in GIST by excising metastatic masses, decompressing the spinal canal, and stabilizing the spine ²⁾.

Case reports

A 61-year-old female had been suffering from left shoulder pain for one month. Computed tomography showed osteolytic masses extending to the vertebral arch in the C5, C6, C7, and Th3 vertebral bodies. In addition, a thickening of the sigmoid colon was observed from the rectal-sigmoid colon, suggesting CRC. A colon biopsy revealed poorly differentiated adenocarcinoma and the vertebra excision was metastatic adenocarcinoma. However, immunohistochemically, the vertebra tumor was negative for CK7 and CK20 but positive for CDX2. Therefore, they made the diagnosis of CRC with bone metastasis and decided to start treatment for CRC. Posterior stabilization was performed for the [spinal tumor](#) 6 days after admission. About one month after admission, she started treatment with chemotherapy. Initially, her left hand could not move, and she could barely hold the pen with her right hand. After adding cetuximab for the third time, she became able to bend the dorsiflexion of her right wrist joint, grasp a stick with her right hand, and move the fingertips of her left hand a little.

The presented case could not be diagnosed as CRC unless [CDX2](#) was examined. Upper body paralysis due to CRC bone metastasis was improved by chemotherapy ³⁾

A patient with gastric cancer with weakness of the lower limbs and urinary retention on initial

presentation. This case demonstrates that although rare, bone metastases and MSCC may occur from gastric primaries. It also highlights the importance of prompt diagnosis and early treatment of MSCC

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A 60-year-old patient diagnosed having a gastric carcinoma with bone metastasis as the first evidence. She has consulted with worsening backache which started two months priorly ⁵⁾

1)

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4)

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