Symptomatic Schwannoma of the Abdominal Wall: A Case Report

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Abstract
Schwannomas are rare benign tumors originating from Schwann cells of the nerve sheath, typically found in peripheral nerves. While they commonly affect extremities, occurrences in parenchymatous organs like the liver are exceedingly rare. Here, we present the case of a 62-year-old man with a symptomatic abdominal wall schwannoma, a unique finding in the medical literature. The patient underwent surgery for a liver hydatid cyst a year prior and subsequently experienced right hypochondrial pains localized at the laparotomy scar. The nodular mass was discovered intraoperatively, prompting surgical excision with enucleation and Lagrot intervention, which resulted in an uneventful postoperative recovery. Histological examination confirmed the diagnosis of a benign schwannoma. This case highlights the importance of considering schwannomas as a rare cause of abdominal pain and emphasizes the favorable prognosis associated with surgical management.

Introduction
Schwannoma, also known as neurinoma or neurilemmoma, is a rare benign tumor originating from Schwann cells of the nerve sheath. Unlike neurofibromas, which contain various cell types, schwannomas are exclusively composed of Schwann cells. They are the most common type of nerve tumor, with an incidence of approximately 5% in adults [1]. Schwannomas often manifest in neurocutaneous disorders like neurofibromatosis I, while in neurofibromatosis II, they typically affect the eighth cranial nerves. Typically encapsulated and non-invasive, schwannomas exert pressure on adjacent nerves, causing them to assume an eccentric shape, usually less than 3 cm in diameter. Malignant transformation is rare, and growth tends to be slow, though in some cases, schwannomas can grow large, exhibiting degenerative features like cysts, fibrosis, and calcification [2].

While most schwannomas are discovered incidentally and can occur in various parts of the body, surgical excision remains the preferred treatment. The decision to operate depends on symptom severity and lesion location, balancing pain relief against the risk of neurological deficits [3]. Enucleation, due to the low risk of recurrence and malignant transformation, is a viable surgical option, while partial excision may be considered to minimize neurological sequelae. We present here the case of an abdominal wall schwannoma discovered incidentally located in an abdominal scar, and notably, a symptomatic one. Written informed consent was obtained from the patient.

The aim of the article is to report a rare case of a symptomatic schwannoma located in the abdominal wall, highlighting its clinical presentation, diagnosis, management, and surgical outcome. Additionally, the study aims to contribute to the existing literature on schwannomas, particularly their occurrence in unusual anatomical locations, to improve understanding and management of these rare tumors.

Case Presentation
We present the case of a 62-year-old man with no medical or toxic history, who underwent surgery one year prior for a liver hydatid cyst via right subcostal laparotomy. He has been experiencing paroxysmal abdominal wall pain located in an abdominal scar, prompting surgical intervention.

Keywords:
schwannoma, abdominal wall, paroxysmal abdominal wall pain

More Information
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pains localized at the laparotomy scar, resembling electric shocks, accompanied by right hypochondrium pains for 6 months, described as heaviness. There are no other associated functional signs, all evolving in a context of afebrility and preservation of general condition.

Physical examination reveals a patient in good general condition, afebrile, and non-jaundiced. Abdominal examination reveals a supple abdomen without organomegaly or sensitivity in the right hypochondrium or the subcostal scar. The rest of the somatic examination was unremarkable.

An abdominal CT scan was indicated, showing a normal-sized liver with a multivesicular cystic lesion measuring 88x60mm in segment VI and a small bile cyst in segment III measuring 7mm, with no other abnormalities (see Figure 1). Hydatid serologies were positive.

The patient underwent a reoperation during which a parietal nodule was incidentally discovered after incision of the right subcostal scar. This oval-shaped nodule, measuring approximately 3 cm, was firm and adherent to the scar (see Figure 2). It was removed with safe margins during the operation, which also involved Lagrot intervention with resection of the protruding dome of the hydatid cysts and drainage of residual cavities.

Postoperative recovery was uneventful, with diet allowed on postoperative day 2, drains removed on postoperative day 3, and discharge on postoperative day 4.

A review of the preoperative abdominal CT scan was performed after the surgery to search for the parietal lesion, which was found at the level of the scar. Histological examination of the parietal nodule showed fibrous tissue with a well-defined, non-encapsulated nodular proliferation composed of crossed bundles of spindle cells. Immunohistochemical study concluded it was a Schwannoma without signs of malignancy.

One-year postoperative follow-up was unremarkable, with no signs of recurrence.

Discussion

Schwannomas are noncancerous growths that originate from Schwann cells within the neural sheath of both cranial and peripheral nerves. Although they typically occur in the extremities, they can also develop in various other areas of the body, including the head and neck, trunk, pelvis, retroperitoneum, mediastinum, and gastrointestinal tract [6]. However, occurrences of these tumors in parenchymatous organs like the liver and pancreas are exceedingly rare. Schwannomas are more prevalent among females and usually manifest between the ages of 20 and 50 [7,8].

In many instances, schwannomas do not cause symptoms and are only discovered incidentally during physical examinations or imaging tests. However, they can sometimes lead to symptoms if they compress nearby large nerves, which was the case for our patient. To date, rare cases of benign schwannomas situated in the abdominal wall have been documented in the medical literature. In one instance, a healthy 64-year-old woman underwent a whole-body CT scan, revealing an incidental 6 cm mass in the right iliac fossa. In another case, a 29-year-old woman presented with a painless lump in the upper left abdomen that had gradually increased in size over a 10-month period. The tumor, measuring 6 cm in diameter, was located between the rectus abdominis muscle and the lateral abdominal muscle, which mirrors the location of the tumor in the present patient. In both cases, histopathological examination confirmed the diagnosis of benign ancient schwannoma [4,5].
Ancient schwannoma is a subtype of schwannoma characterized by degenerative changes observed under microscopic examination. These changes typically develop over an extended period. However, in the current case, the symptomatic nature of the lesion, characterized by persistent abdominal wall pain, likely contributed to its early detection despite its small size and absence of degenerative changes [10,11]. Identifying a nerve entering and exiting a mass is indicative of a peripheral nerve sheath tumor, with the eccentric association with the nerve being a characteristic feature of schwannomas rather than neurofibromas [12,13].

Conclusion
In conclusion, surgical removal is the definitive treatment for benign schwannomas. The prognosis is generally favorable, with recurrence being uncommon and malignant transformation being extremely rare [14]. This study reports an exceptional documented case of a symptomatic schwannoma occurring in the abdominal wall, emphasizing the importance of considering this rare condition in the differential diagnosis of unexplained abdominal pain [15].

References