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Sigmoid schwannoma masquerading as malignancy: Diagnostic dilemma and surgical resolution

***Corresponding Author: Sanei Behnam**

Department of Hepatobiliary Surgery, Isfahan University of Medical Sciences, Isfahan, Iran.

Email: b_sanei@med.mui.ac.ir

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Abstract

Schwannomas are uncommon benign tumors of Schwann cell origin, most often encountered in the head, neck, and extremities—yet their appearance in the colon is a medical rarity. We report the case of a 61-year-old woman whose year-long history of vague abdominal pain, postprandial nausea, and iron-deficiency anemia culminated in a screening colonoscopy that unveiled a 4 cm submucosal mass in the distal sigmoid colon. Initial biopsies proved nondiagnostic, and a CT scan suggested localized wall thickening. Rapid progression to near-complete bowel obstruction prompted surgical exploration, during which an obstructive sigmoid lesion and mesenteric lymphadenopathy were found. Given her comorbidities and high malignancy suspicion, a cancer-directed sigmoidectomy with lymph node dissection was performed. Pathology revealed a 3 cm spindle-cell neoplasm strongly S-100 positive and negative for CD117, DOG1, CD34, and Desmin—hallmarks of colonic schwannoma. The patient recovered uneventfully and required no adjuvant therapy. This case highlights the diagnostic challenge of colonic schwannomas and underscores the value of definitive surgical resection for both symptom relief and conclusive diagnosis.

Introdution

Schwannomas are a type of mesenchymal tumors which are derived from Schwann cells. These spindle cell neoplasms are mostly found along the peripheral nerves throughout the body. The most common sites are extremities, trunk, head and neck, retroperitoneum, mediastinum and pelvis. Gastrointestinal Schwannomas including colon and rectum are extremely rare. Colon Schwannomas primarily are found incidentally on screening colonoscopy as submucosal tumors and seldom become symptomatic.In this article, we discuss an elderly woman who represented with chronic abdominal pain and evidences of GI partial obstruction caused by distal sigmoid mass requiring surgical resection.

Case presentation

A 61-year-old woman with a history of thyroidectomy, parathyroidectomy, and hysterectomy had been managed in outpatient settings at multiple centers for mild abdominal symptoms, including chronic abdominal pain and occasional postprandial nausea and vomiting. However, her symptoms persisted for approximately one year despite ongoing medical management.

During her diagnostic workup, the medical team identified iron-deficiency anemia. Due to the combination of anemia and abdominal symptoms, a colonoscopy was performed. The examination revealed external and internal hemorrhoids, along with a large submucosal mass (40 mm) located approximately 45 cm from the anal verge. Biopsy specimens were obtained, but histopathological evaluation was inconclusive, and the nature of the mass—benign or malignant—could not be determined.

As part of the clinical assessment, an abdominopelvic CT scan was subsequently performed, which revealed localized wall thickening in the sigmoid colon. After these evaluations, the patient's condition deteriorated, and she developed marked symptoms indicative of near-complete or complete bowel obstruction, including constipation, postprandial vomiting, and worsening abdominal pain. Hence, surgical intervention was planned, despite the lack of a definite pathological diagnosis.

The patient was hospitalized, and after stabilization of her calcium and thyroid hormone levels in consultation with the endocrinology team, she underwent exploratory surgery. Dur-

ing operation, a palpable mass and gross mesenteric lymphadenopathy were identified.

Although segmental sigmoid resection with subsequent pathological assessment could have been considered, a total cancer-directed resection was performed due to the patient's metabolic comorbidities, obesity, and the obstructive nature of the lesion, along with a high suspicion of malignancy. She underwent sigmoidectomy, partial proctectomy, lymph node dissection, and end-to-end anastomosis.

On gross examining of the resected specimen, the total length was 27 cm x 6 cm from distal margin a polypoid mass was seen. The greatest diameter was 3.0 x 3.0 x 2.0 cm. Other part of intestine mucosa was normal. 31 lymph nodes were harvested from pericolic fat and mesorectum. IHC staining on paraffin block reveals positive reaction for S100 and was negative for Desmin, DOG1, CD117and CD34. So that IHC results were in favor of Schwannoma.

During the recovery period, the patient's general condition and metabolic parameters stabilized after management of hypocalcemia in collaboration with the endocrinology team. On the second postoperative day, the patient was started on a diet and tolerated it well. The diet was then advanced gradually. As there was no evidence of leakage, the patient was discharged without complications on postoperative day 6. After consultation with an oncologist, no postoperative adjuvant therapy was performed.

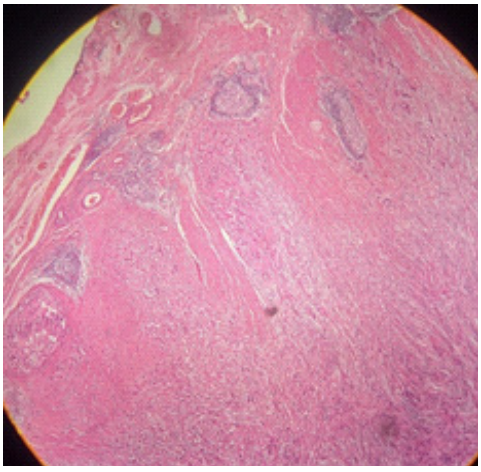

Figure 1: Schwannomas are composed of cellular Antoni A areas alternating with hypocellular Antoni B areas. Antoni A areas are composed of interlacing bundles of spindle cells with wavy or oval nuclei, eosinophilic cytoplasm (40X).

Discussion

Schwannomas, also known as neurilemmomas, are benign spindle-cell tumors originating from Schwann cells, the principal glial cells responsible for the myelination of peripheral nerves. These tumors are relatively uncommon, representing approximately 5% of all benign soft tissue tumors. Schwannomas most commonly arise in the head, neck, and extremities; Gastrointestinal (GI) tract involvement is exceedingly rare, comprising only about 2-6% of all schwannomas, with colonic involvement being particularly uncommon [1,2]. Due to their rarity and nonspecific symptoms, gastrointestinal schwannomas pose significant diagnostic challenges, frequently leading to delayed diagnosis or incidental findings during routine investigations [1].

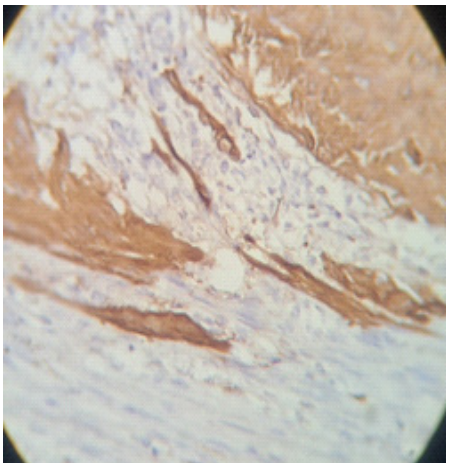

Figure 2: Schwannoma shows strong immunoreactivity for S-100 protein (400X).

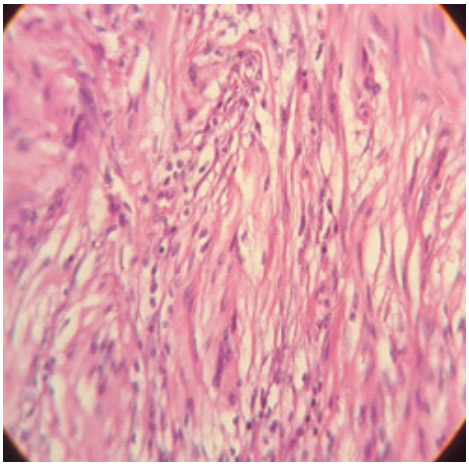

Figure 3: Consist of haphazardly arranged spindle cells in a loose hyalinized stroma containing a few inflammatory cells (400X).

To date, fewer than 100 colonic schwannoma cases have been documented in the literature, underscoring the rarity and limited understanding of their clinical course and management [3,4]. Although there is no universally accepted classification system specific to colonic schwannomas, they are commonly categorized based on anatomical location, clinical behavior, or histopathological features. Our presented case is consistent with previously reported colonic schwannomas, adding to the limited pool of sigmoid colon schwannomas characterized by obstructive gastrointestinal symptoms [4,5]. The current case enhances clinical understanding, particularly highlighting the diagnostic complexity and surgical management intricacies.

Diagnosis of gastrointestinal schwannoma typically involves imaging studies, endoscopic evaluation, and histopathological examination with Immunohistochemistry (IHC). Endoscopically, schwannomas present as submucosal masses; however, biopsies frequently yield inconclusive results due to their submucosal location, making definitive preoperative diagnosis challenging [6]. As demonstrated in our patient, histopathological examination after surgical excision is often necessary to establish the diagnosis. IHC positivity for S100 protein and negativity for CD34, DOG1, CD117, and Desmin is diagnostic of schwannoma, clearly distinguishing it from other spindle-cell neoplasms such as Gastrointestinal Stromal Tumors (GISTs), which usually express CD117 and DOG1 [6,7]. Our patient's IHC profile pre-

cisely matched the established diagnostic criteria, confirming the schwannoma diagnosis.

Management of colonic schwannomas predominantly involves surgical excision, particularly for symptomatic or obstructive lesions. Complete resection remains the gold standard due to the difficulty of preoperative malignancy exclusion and symptomatic relief [8]. In line with standard recommendations and guided by our patient's severe symptomatic presentation and suspicion of malignancy, we opted for a segmental sigmoidectomy with partial proctectomy and lymph node dissection, providing complete tumor removal and definitive histopathological assessment. This aggressive surgical management aligns with the consensus in existing literature, emphasizing complete excision for symptom relief and definitive histological diagnosis [8,9]. Postoperative management primarily focuses on symptom control and management of complications, as illustrated by our patient's careful postoperative monitoring and management of hypocalcemia, potential pulmonary embolism, and aspiration pneumonia.

Conclusion

In conclusion, colonic schwannomas, though rare and diagnostically challenging, should be considered in patients presenting with chronic gastrointestinal obstructive symptoms and inconclusive biopsy results. Our case highlights the importance of a high index of clinical suspicion and comprehensive surgical management to achieve symptomatic relief and definitive diagnosis. Each additional case reported enhances clinical awareness and contributes valuable insights into managing this uncommon condition, ultimately improving patient outcomes through timely and appropriate intervention.

References

1. Bohlok A, El Khoury M, Bou Khalil R, et al. Schwannoma of the colon and rectum: a systematic literature review. World J Surg Oncol. 2018; 16(1): 125.
2. Hou YY, Tan YS, Xu JF, Wang XN, Lu SH, Ji Y. Schwannoma of the gastrointestinal tract: A clinicopathological, immunohistochemical and ultrastructural study of 33 cases. Histopathology. 2006; 48(5): 536-545.
3. Nonose R, Lahan AY, Valle RD, Oliveira MA, Martinez CAR. Schwannoma of the colon. Case Rep Gastroenterol. 2009; 3(3): 293-299.
4. Miettinen M, Fletcher CD, Kindblom LG, Tsui WM. Mesenchymal tumors of the colon and rectum: A clinicopathologic and immunohistochemical study of 44 cases. Am J Surg Pathol. 2001; 25(5): 635-645.
5. Daimaru Y, Kido H, Hashimoto H, Enjoji M. Benign schwannoma of the gastrointestinal tract: A clinicopathologic and immunohistochemical study. Hum Pathol. 1988; 19(3): 257-264.
6. Sarlomo-Rikala M, Miettinen M. Gastric schwannoma--a clinicopathological analysis of six cases. Histopathology. 1995; 27(4): 355-360.
7. Voltaggio L, Montgomery EA. Gastrointestinal tract spindle cell lesions--just like real estate, it's all about location. Mod Pathol. 2015; 28 Suppl 1: S47-66.
8. Wilde BK, Senger JL, Kanthan R. Gastrointestinal schwannoma: An unusual colonic lesion mimicking adenocarcinoma. Can J Gastroenterol Hepatol. 2010; 24(4): 233-236.
9. Lasithiotakis K, Petrakis I, Georgiadis G, Paraskakis S, Chalkiadakis G, Chrysos E. Colonic schwannoma: A rare gastrointestinal tract tumor mimicking malignancy. Case Rep Surg. 2013; 2013: 632307.