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Case Report

Schwannoma of the Colon: A Case Report

Omar Mouni*, Mohamed Bouziane, Anas Idrissi, Ahmed Bensaad, Abdellah Nouri, Youssef Ghaddou, Mohamed Mokhtari, Abdelziz Fadil, Khalid Sair

Cheikh Khalifa International University Hospital, Mohammed VI University of Health Sciences (UM6SS), Casablanca, Morocco

***Corresponding author:** Omar Mouni, Cheikh Khalifa International University Hospital, Mohammed VI University of Health Sciences (UM6SS), Casablanca, Morocco

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Abstract

Colonic Schwannoma is an extremely rare gastro-intestinal tumor. This tumor is more often found starting from shwann cells in the peripheral nervous system. The colonic Schwannoma is the second most frequent localization in the digestive system. The present study reports a case of colonic schwannoma in a 96-year-old patient who has undergone surgery.

Keywords: Colon; Diagnosis; Schwannoma; Treatment

Introduction

Colonic Schwannoma is a very rare gastro-intestinal tumor. The gastric localization is the most frequent (83% digestive Schwannoma) [1]. Very few cases have been reported (less than a hundred [2]). Intestinal schwannoma lacks specific clinical manifestations, and its symptoms mainly depend on the size and location of the tumor [2].

Diagnosis can be suspected after endoscopic biopsies and this tumor can easily be confused with other mesenchymal tumors, such as a Gastrointestinal Stromal Tumor (GIST) and leiomyosarcoma. but most often the diagnosis is confirmed on postoperative pathology and immunohistochemistry [2]. The present study reports a rare case of a schwannoma present in the sigmoid colon that was detected by colonoscopy and who underwent surgical resection.

Case Report

A 96 years old diabetic patient was admitted at the university hospital cheikh khalifa (Casablanca, Morocco) presenting abdominal pain and alternating episodes of diarrhea and constipation, no weight loss was reported. The patient had a history of diabetes for which he was taking metformin and no other specific medical conditions. There was no family history of inflammatory bowel disease or cancer, and he had had no prior abdominal surgeries. The physical examination did not reveal any specific sign and the laboratory test results were normal.

The patient underwent a colonoscopy which revealed a protruding lesion of 3cm in diameter with a few ulceration and occupying more than a quarter of the circumference of the descending colon with a wide implantation base (no possible endoscopic resection) and situated at a 40cm distance from the anus (Figure 1).

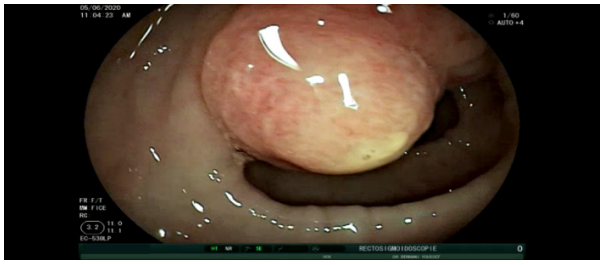

Figure 1: Colonoscopy showing the protruding tumor.

At pathology, colonoscopic biopsies of the mass showed a tubular adenoma. With the adenocarcinoma of the colon being a possible diagnostic, the work-up for extension was deemed necessary: an abdominal computed tomography scan (CT scan) revealed no liver metastases and no other distant lesions. the patient underwent surgery: a laparoscopic assisted wedge resection of the sigmoid colon was performed after a colonoscopy during the same anesthesia to help locate the tumor. We found no peritoneal nodule of carcinosis and no hepatic nodule during the surgical exploration. The left colon was mobilized at the white line of Toldt, the 3 cm sigmoid mass was extracted by a small Para rectal incision. A wedge resection of the sigmoid was performed with a 5cm margin on both ends. An end to end anastomosis was fashioned between the 2 remaining colonic segments. The post-operative course was uneventful, the resumption of bowel movement was at day 3 and the patient was discharged on day 5 with pain killers. Further post-operative follow-ups after 15 days and 3 months revealed no

complications and the patient received no further treatment (Figure 2).

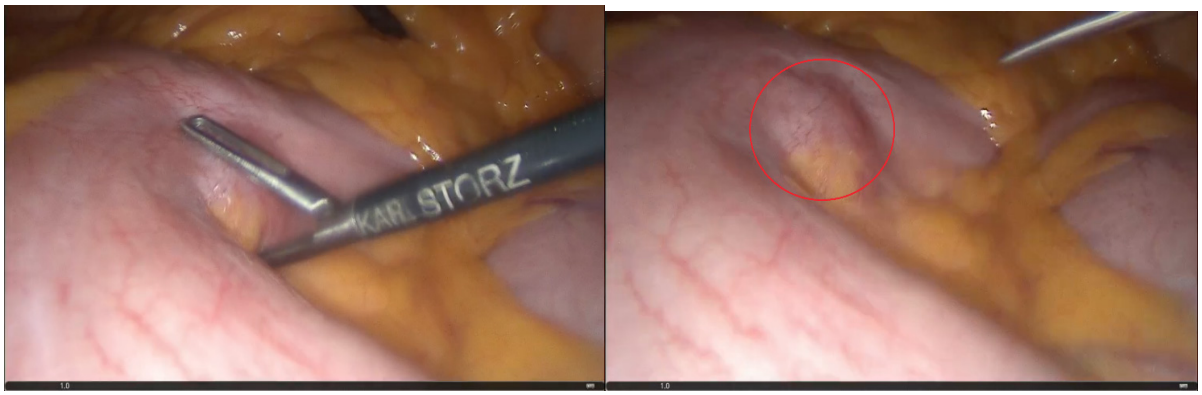

Figure 2: Image showing the tumor during surgical laprascopic exploration.

The pathology analysis of the resected segment revealed an ulcerated mesenchymal lesion which are in favor of a colonic Schwannoma. The tumor's dimensions were 2*2*1.5 cm. The resection's margins were not affected by the tumor. 3 lymph nodes were found in the operative specimen; with no tumoral invasion. Microscopic analysis revealed that the tumor was composed of a well encapsulated tumoral proliferation with a low grade dysplasia and a low Ki 67 index (Figure 3).

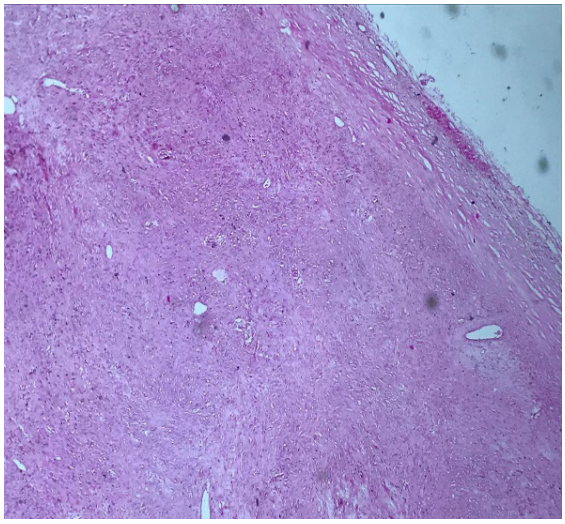

Figure 3: Well limited tumoral proliferation (Hematoxylin and eosin staining) x50.

It was made of monomorphic ovoid proliferating spindle cells arranged in sotoriform patterns, intercut with collagen fibers and a neuroid differentiation at some places (Figures 4,5).

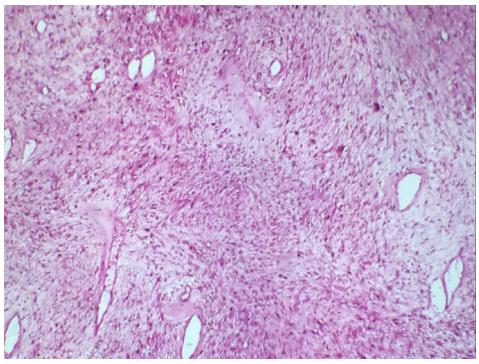

Figure 4: The tumor was made of monomorphic ovoid proliferating spindle cells arranged in sotoriform patterns (Hematoxylin and eosin staining) x100.

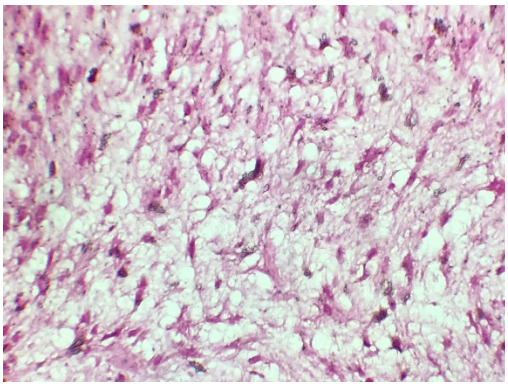

Figure 5: Elongated and regular The cell nuclei (Hematoxylin and eosin staining) x400.

The cell nuclei were elongated and regular (Figure 6).

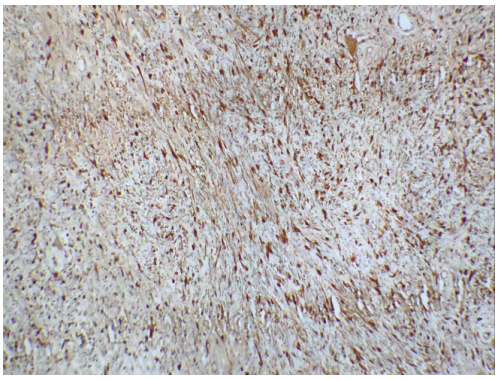

Figure 6: Immunohistochemical examination of the tumor exhibited a positive reactivity for S 100.

Immunohistochemical examination of the tumor exhibited a positive reactivity for S-100, however, no reactivity for cluster of differentiation (CD) 117, CD34.

Discussion

As previously said colonic schwannoma are extremely rare, nonetheless we can face them in our practice as physicians. So there are a few questions that needs to be answered in order to provide the best possible car for our patient. So what are the possible clinical, radiological and endoscopic signs that can make us think of these types of tumors? is it necessary to look for secondary locations of these tumors? How can we differentiate theses tumors from other mesenchymal tumors? what are the possible reasons for the delayed diagnostic in our case and why was there a difference between the pathology result of the endoscopic biopsies and the operative specimen? What is the best possible treatment we can give our patient and what is the best follow up for protocol?. Colonic schwannoma lacks specific clinical manifestations, and its symptoms mainly depend on the size and location of the tumor. The main symptoms include gastrointestinal bleeding, abdominal pain, and changes in bowel habits [1]. The most common locations for these tumors are the stomach followed by the colon/rectum then the small intestine and lastly the esophagus [3,4] there have been no reported case of a double localization so we do not think that searching for other location is necessary although we cannot be definitive in this recommendation as the reported number of cases is very limited.

Imaging findings are nonspecific; CT scans show well-defined, homogeneous mural masses, and can help to distinguish schwannomas from Gastrointestinal Stromal Tumors (GISTs), which are heterogeneous masses [5]. The pet scan cannot help us differentiate between benign and malignant Schwannoma although octreotide receptor PET/CT scan can help to exclude the diagnosis of neuroendocrine tumor (NET)[2]. In our case the tumor was not visible in CT scan (probably due to a lack of specific preparation), no pet scan was done and the tumor was diagnosed only in endoscopy, which revealed a protruding lesion of 3cm in diameter with a few ulcerations. At this stage we can only suspect a mesenchymal tumor of the colon because of its size and homogenous aspect but it is impossible to differentiate them from Schwannomas It is only the biopsy which need to be of both the mucosa and submucosa that can help with the diagnosis. In our case the first biopsy showed a tubular adenoma, which may be explained by the superficial nature of the biopsies.

On most occasions, diagnosis is not established based on a biopsy but on a surgical specimen [6]. Immunohistochemical examination of the tumor cells is considered the optimal diagnostic tool for this type of tumor [7]. Schwannomas usually exhibit positive reactivity for S-100 (as in our case), vimentin and glial fibrillary acidic protein, and no reactivity for CD117, CD34, actin or cytokeratins, which appear more typically in GISTs, gastrointestinal autonomic tumors or muscle tumors [8,9]. In our

case the treatment options include polypectomy or segmental colectomy with free margins due to the low risk of malignancy [10,11]. As the endoscopic resection was deemed impossible for our case we opted for a surgical segmental colectomy. Due to The benign nature of the tumor the prognosis of patients with schwannoma is good; At present, no recurrence or metastasis has been reported in patients with benign intestinal schwannomas after complete surgical resection [12].

A study suggested that since Schwannoma have a lower risk of malignant transformation than GIST and since According to the National Comprehensive Cancer Network (NCCN) guidelines, for GISTs with diameters < 2 cm, there is no need for surgical excision if there are no high-risk EUS features [13]. We may be able to abstain from any type of resection especially in older patient like ours who may not be able to tolerate surgery. However, whether schwannomas with diameters < 2 cm can be observed regularly like GIST or should be resected immediately requires more postoperative follow-up and further studies. [12] Since our patient had a tumor bigger than 2cm the surgical resection was deemed necessary. At present, no recurrence or metastasis has been reported in patients with benign intestinal schwannomas after complete surgical resection Thus, for the benign intestinal schwannomas that have been completely resected, no further treatment is necessary and follow-up may not be optional.

Conclusion

Colonic Schwannoma is an extremely rare tumor that often gets confused with other mesenchymal tumor of the colon as there are very few specific clinical, radiological or endoscopic characteristic of these tumors. The diagnosis is most often made on Immunohistochemical study of the operative specimen. Treatment options include polypectomy or limited surgical resection with free margins as these tumors have little risk of recurrence.

No adjuvant treatment is necessary and follow up may be optional, although with the very limited number of reported cases no recommendation can be issued [14].

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