

# Delayed Hemicolectomy for Incidentally Discovered Carcinoid of The Cecal Appendix—A Case Report.

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**ABSTRACT**— Carcinoid tumors of the appendix constitute about 0.2-0.8% of all appendectomies. The tumors are usually asymptomatic and discovered by pathology of the removed appendix. Tumors > two cm, at the base of the appendix, with invasion or metastasis, need hemicolectomy, while those <1cm can be treated with appendectomy. Tumors size one cm to two cm should be treated case by case. We presented a 38-year-old female treated by delayed hemicolectomy for incidentally found cecal appendix classic carcinoid.

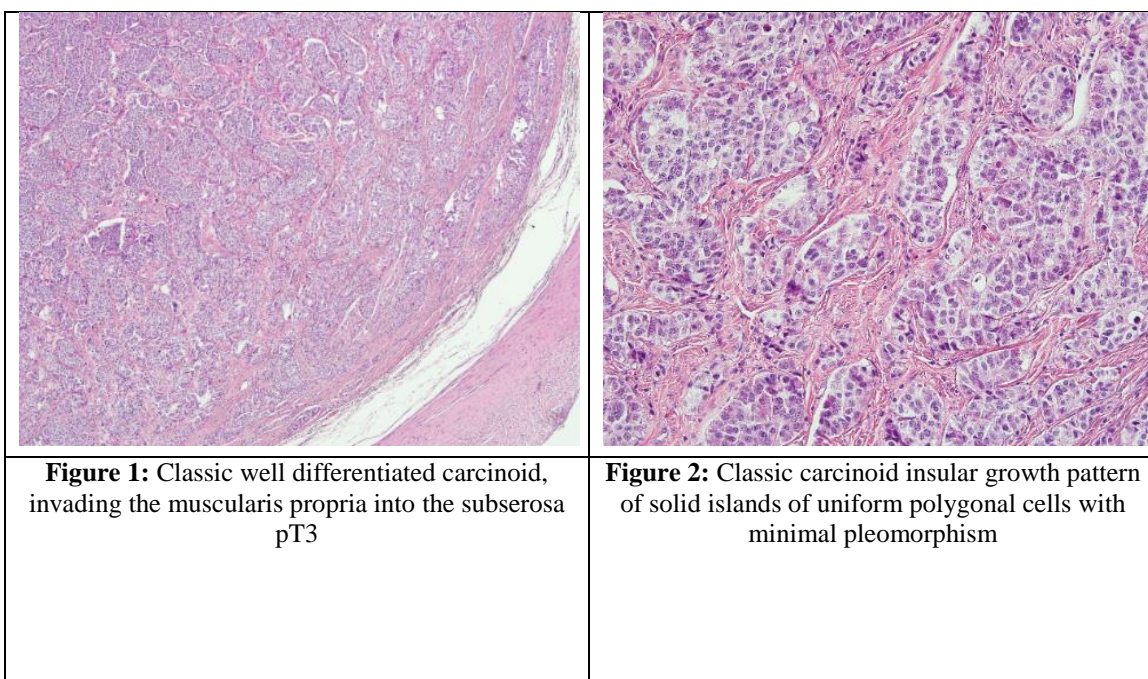
**KEYWORDS:** classic carcinoid, cecal appendix, delayed hemicolectomy, cesarean section, Saudi Arabia.

## 1. INTRODUCTION

Carcinoid tumors are rare, slow-growing neuroendocrine tumors that arise from enterochromaffin cells and can potentially occur in various sites of the body including the gastrointestinal tract (GIT), followed by the respiratory system [1]. The cecal appendix is the most common site in the GIT due to the high neuroendocrine cells; lymphocytes usually encircle and invade the tumor mimicking infections and inflammation and improving the prognosis [2]. Appendicular Carcinoids are discovered in 0.5% of all appendectomy specimens and constitute 50% of appendicular neoplasms [3], [4]. Appendicular carcinoids are benign tumors and are usually incidentally discovered following histopathology of the surgically removed appendix or on imaging studies done for unrelated reasons, the prognosis is good for small tumors and only appendectomy is required [5]. The current case describes a unique situation in which a carcinoid of cecal the appendix was unexpectedly detected during a cesarean section delivery.

## 2. Case Report

We present the case of a 38-year-old pregnant woman who was incidentally found to have an appendicular carcinoid tumor during an emergency cesarean section which was removed. She had no previous surgical intervention, no significant family history, and did not report any gastrointestinal symptoms. The histopathology showed classic well differentiated carcinoid, invading the muscularis propria into the subserosa pT3, pN0 [Figure 1] and [Figure 2]. A postoperative imaging studies including a computed tomography (CT) scan of the chest, abdomen and pelvis were obtained and showed no evidence of metastasis. After a discussion with the patient about the possibility of residual tumor, the patient was referred to surgical oncology for further management. She underwent a laparoscopic right hemicolectomy. The removed colon and small intestine were free from residual malignancy, with no evidence of lymph node involvement. The patient was discharged home on postoperative day 6 without any complications for subsequent follow-up.



### 3. Discussion

Carcinoid tumors are generally slow-growing neoplasms with indolent behavior. The importance of histopathology of the removed appendix was stated, we presented a rare case of Saudi female who was diagnosed with a carcinoid tumor during cesarean section, and similarly, [6] reported incidental carcinoid of appendix in a 30 -year-old female during elective cesarean section. [7] also reported an Appendicular carcinoid in 31-year-old female discovered during emergency cesarean section. Surgery remains the mainstay of treatment for localized disease and appendectomy alone may be curative, however guidelines for primary or interval hemicolectomy take into account the site and the size of the tumor, involvement of mesoappendix, and lymphovascular invasion as the major determinants [8].

The prevalence of carcinoid tumors in appendectomies varied between 0.2% and 0.5%, [9] reported five appendiceal carcinoid tumors in 1237 appendectomies. In the era of the conservative approach and antibiotic treatment of appendicitis, the patient's counseling on the possibility of a delayed diagnosis is important [10]. Carcinoid tumors of the appendix are classified as classic, tubular, goblet cell, and mixed type with the goblet variant being the most aggressive [11]. The North American Neuroendocrine Society recommended hemicolectomy for tumors more than 2cm, if at the base of the appendix, local invasion, lymph node, and distant metastasis. Hemicolectomy is also indicated for intermediate/high-grade neoplasm depending on Ki-67 [12], [13]. No consensus is available for tumors between 1-2cm.

### 4. Conclusion

In conclusion, this case report highlighted a rare situation, where the diagnosis of appendicular carcinoid was unexpectedly made during a cesarean delivery, which considered a challenging task, as many of the signs and symptoms of cancer can be masked or attributed to the physiological changes that occur during pregnancy. Clinicians should be aware of this possibility and have a low threshold for further evaluation to ensure appropriate clinical management. Early detection and effective surgical intervention remain key to the successful management of localized disease. This unique case highlights the significance of sharing such experiences to enhance medical knowledge and awareness.

### Conflicts of Interest

The author have no conflicts of interest to declare.

### 5. References

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