Title: Synchronous Medullary Colon Cancer & Porcelain Gallbladder

Case Report

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BACKGROUND:

This is an 80-year-old patient with both medullary colon cancer and the findings of a markedly indurated and calcified gallbladder.

MEDULLARY COLON CARCINOMA

- Rare subtype that accounts for **less than 1%** of all colon malignancies
- Resembles poorly differentiated adenocarcinoma and neuroendocrine carcinoma
- High degree of microsatellite instability (MSI)
- Higher incidence in **older females** with a **right-sided predominance**

PORCELAIN GALLBLADDER

- Incidence **less than 1%**
- Also displays **female** predominance
- Often incidental finding in asymptomatic patient
- Although historically linked with gallbladder carcinoma, the risk is now understood to be much lower

There are no reports of patients with **both** porcelain gallbladder and medullary colon cancer.

INITIAL PRESENTATION:

80-year-old female referred to our office for a colonic mass. Her past medical history includes anemia, stage 3 chronic kidney disease, hyperlipidemia, and hypertension. She underwent colonoscopy to evaluate **iron-deficiency anemia** and a fungating mass was observed in the ascending colon. A follow-up CT scan confirmed the presence of the **mass at the hepatic flexure** and revealed the **presence of a porcelain gallbladder**.



Synchronous lesions are uncommon. This is a case report of synchronous **Medullary Colon Carcinoma** and a **Porcelain Gallbladder**.

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PROCEDURE:

The patient underwent a **robotic extended right hemicolectomy** in addition to a **robotic cholecystectomy**. She recovered well and was eventually discharged home. *Unfortunately, she then contracted COVID-19 and died several weeks later.*

DIAGNOSTIC TESTING & PATHOLOGY:

Preoperative assay for circulating tumor DNA (ctDNA, Colvera®) was **positive**, in addition to a CEA of 3.0 ng/mL.

- **Negative** surgical margins
- **0 of 12** pericolonic **lymph nodes** positive for metastases
- No evidence of gallbladder malignancy
- Immunohistochemical staining (**Table 1**) yields an atypical pattern but is indicative of **Medullary Colon Carcinoma**

Table 1. Comparison of pathogenetic characteristics typical to Medullary Colon Cancer in comparison with our case patient.

	Population of Medullary Carcinoma	Case Patient
MLH1/PMS2	Negative in 80-100% cases	Negative
MSH2/MSH6	Typically Negative	Positive
AE1/AE3, Cytokeratin	Indicates Carcinoma	Strong diffuse positive
MOC31	Indicates Carcinoma	Strong diffuse positive
Synaptophysin, Chromogranin	Indicates neuroendocrine tumor type	Negative
PAX-8	Indicates GU Origin	Negative
ER	Indicates Breast Origin	Negative
TTF1	Indicates Thyroid Origin	Negative
WT1	Indicates Lung Origin	Negative
Ki-67	Marker of Cell Proliferation	85%
GATA-3	Negative	Negative
SATB-2	Positive	Negative
CDX2	Positive in 19% (variable)	Negative
CK7	Positive in 13% (variable)	Negative
CK20	Positive 14-44% (variable)	Rare cells, weak positive
Calretinin	Positive in 78%	Positive

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