

**CHOLANGIOCARCINOMA: A RARE TELEPHONE PRESENTATION OF JAUNDICE**

By: Derek Ammeter and Dustin Lavallee

Home for the Summer Program: July-August 2020

Portage la Prairie, Manitoba

Supervisor: Dr. Brett Finney and Dr. Alyssa Delaquis

## Abstract

Cholangiocarcinoma is a rare cancer originating in the epithelial cells of the biliary tree<sup>1</sup>. It is often lethal and generally presents similarly to other causes of bile obstruction. Typical signs and symptoms of the bilirubin accumulation due to cholangiocarcinoma include jaundice, pruritis, clay coloured stools and dark urine<sup>1</sup>.

Here we present the case of a 73-year-old female with suspected cholangiocarcinoma presenting during the SARS-CoV-2 pandemic and complicated by side effects of medical procedures. She presented via telephone consultation and described jaundice, decreased appetite, clay stools, dark urine, pruritis and general malaise over several days. Workup prompted imaging and an endoscopic retrograde cholangiopancreatography (ERCP). The ERCP allowed stents to be placed and raised suspicion of cholangiocarcinoma, but also induced a post-ERCP pancreatitis (PEP) that necessitated hospital admission. Initial cytology obtained during the ERCP was nondiagnostic and further evaluation for a definitive diagnosis is ongoing. The case highlights the adaptations made by the healthcare system to allow for timely care for patients during a pandemic. This includes patients such as the current case, who present via telephone with a rare condition.

## Introduction

Cholangiocarcinoma is a rare and often lethal cancer, arising from the epithelia cells of the bile ducts and about 70% of the time there is no known risk factors.<sup>2</sup> These types of cancers are further classified based on their exact location within the ducts, being either intrahepatic, perihilar or distal types. All of which have differ in prognosis and should be guided by different diagnostics and subsequent therapeutic approaches.<sup>3</sup>

The reason these cancers are often lethal is that they usually do not present until there is occlusion of the bile duct, after which the cancer has had a fair amount of time to grow. Along with this, it takes a variety of tests to arrive at a formal diagnosis, extending the time it takes to start treatment and leading to further development of the cancer and possible unresectable borders or metastasis. The current pandemic and precautions taken by individuals and institutions has potential to provide another barrier to timely diagnosis and subsequent care.

## Case History

The present case is of a 73-year-old female with a history of type 2 diabetes mellitus, hypertension, and breast cancer diagnosed 4 years prior. The breast cancer was treated with a right lumpectomy, chemotherapy and radiation therapy and there was no evidence of metastasis.

The patient presented over a telephone consultation and described jaundice, decreased appetite, clay stools, dark urine, pruritis and general malaise over several days. No fever, chills,

## CHOLANGIOCARCINOMA: A RARE TELEPHONE PRESENTATION OF JAUNDICE

vomiting or diarrhea were described. Bloodwork was ordered as an outpatient and returned the following day as follows:

<b>Test</b>	<b>Result</b>	<b>Reference range</b>	<b>Units</b>
Total Bilirubin	189	3 - 19	µmol/L
Direct Bilirubin	158	0 - 7	µmol/L
ALT	238	< 46	U/L
LD	530	230 - 490	U/L
GGT	644	5 - 29	U/L
Alkaline Phosphatase	359	36 - 144	U/L

The results led to an urgent ultrasound and physical exam. The physical exam was significant for jaundice and a flat, nontender abdomen. The liver edge was barely palpable on inspiration. Ultrasound showed a normal sized liver with no masses, but dilation of the intrahepatic and extrahepatic bile ducts was seen (common bile duct measuring 1 cm). Some echogenic material was noted in the distal common bile duct which may have been small stones or sludge, and a duct mass could not be excluded. The gallbladder showed 2 large stones and no inflammatory wall thickening. The kidneys and pancreatic duct appeared normal. No acute cholelithiasis was noted.

An ERCP procedure was done about one week later which noted a small mass, assumed by the specialist to be cholangiocarcinoma, obstructing the bile duct. A common bile duct as well as a pancreatic stent was placed. A common bile duct brushing was sent for pathology and groups of atypical glandular cells as well as sheets of benign appearing biliary glandular cells were seen. No malignant cytological features were noted. The patient was discharged but returned to the emergency room the same evening describing a new onset upper quadrant pain. She was admitted to hospital with a most likely diagnosis of PEP, or possible perforation. Labs returned:

<b>Test</b>	<b>Result</b>	<b>Reference range</b>	<b>Units</b>
Lipase	> 4000	23 - 300	U/L
Total Bilirubin	264	3 - 19	µmol/L
Direct Bilirubin	222	< 7	µmol/L
AST	141	16 - 51	U/L
ALT	205	< 46	U/L
LD	497	230 - 490	U/L
GGT	761	5 - 29	U/L
Alkaline Phosphatase	587	36 - 144	U/L
Carcinoembryonic Ag	3.2	< 5	µg/L
Carbohydrate Ag 19-9	129	< 34	U/mL

Computed tomography (CT) chest infused and CT abdomen post-admission showed peripancreatic fluid and edema, some ascites and bilateral pleural effusion. Enlargement of the pancreatic head was also noted to be likely related to post ERCP focal pancreatitis. The biliary tree was mildly dilated, but no defined mass or evidence of metastatic disease was noted.

## CHOLANGIOCARCINOMA: A RARE TELEPHONE PRESENTATION OF JAUNDICE

Due to the undiagnostic brushing cytology results, ongoing evaluation of the mass including a needle aspiration biopsy is planned. These results will aid in determining her eligibility for surgical resection and allow the formulation of a treatment plan.

### Discussion

Thankfully the patient presented over the phone with the typical signs and symptoms of a biliary obstruction, including jaundice, which is present in about 90% of cases of cholangiocarcinoma, pruritus, clay-colored stools, dark urine and malaise, allowing the work-up to follow a predictable route. Some other signs and symptoms that are often present but were not in this case are a constant dull pain over the right upper quadrant, weight loss, fever, fatigue and night sweats.<sup>1</sup> The following blood work that was taken was very targeted to the liver function and the lab uncovered values that confirmed what the signs and symptoms were leaning towards, there was a biliary obstruction in the extrahepatic region. With the raised ALT would suggest there was some hepatocellular injury occurring as well, this would most likely occur in the case of a more chronic biliary obstruction<sup>1</sup>, which seems unusually considering these signs and symptoms only started several days before.

One of the main differences in presentation of this case is that typically people do not present over the phone on their initially visit, this is something new that has come about because of the current pandemic. With more and more people trying to avoid clinics and hospitals when the COVID-19 numbers start to climb, as is the case within the city of Portage la Prairie during our time there, physicians will have to be proficient at communicating over the phone with patients. This is critical as the patient's adherence to any sort of medical advice is highly correlated with the ability of a physician to communicate with them<sup>4</sup> and the phone brings up new challenges. With this case presenting over the phone and future cases more likely to be doing so as well, as emergency department numbers have been shown to wane during times of COVID-19,<sup>5</sup> physicians will have to become skilled at getting patients to come into the hospital following their initial conversation without enticing too much worry in their patients. Since the telephone calls are only a recent installment in the guidelines of healthcare, we have yet to determine how it will trickle down into the training of new physicians and the effects they will have on access to care.

Despite the initial hesitation to come in, after the patient underwent the ERCP there was no hesitation to come into the emergency department after the development of new pains in the upper quadrant. This may have been for several reasons but hopefully because the physicians performing the procedure were adequate at communicating the risks that come with a procedure like the ERCP, one of those being PEP. Unfortunately the patient developed this complication, which is found to occur between 1.6 and 15 percent of the time<sup>6</sup>, despite having a pancreatic stent placed. The complication resulted in the patient being admitted and having to spend more time in the hospital which is both good and bad. Firstly, it is good as they can be monitored more closely, and additionally any testing is usually done more urgently than if she was treated as an outpatient. Secondly, it is also difficult because that is another bed being

## CHOLANGIOCARCINOMA: A RARE TELEPHONE PRESENTATION OF JAUNDICE

taken up and with the new regulations during the pandemic, there is at times, no visiting hours which cannot be favourable for the patients clinical outcomes either.<sup>7</sup> Although these precautions are put in place with the best of intentions and the backing of anecdotal evidence, the research has yet to back what we are practicing.

Another important aspect of the case is the timeframe of diagnosis and the resulting prognosis. A cholangiocarcinoma usually presents very late because by the time patients show symptoms, they already have enough growth to cause the biliary tract to become occluded. This has often translated into these cancers having a very poor prognosis, especially since the only known cure is surgical resection of the tumor and later on in the disease there is often poorly defined borders with about 2/3 deemed unresectable<sup>2</sup>. In this case the patient had a telephone appointment shortly after the onset of symptoms and was able to get to the lab quickly, at which point the lab numbers dictated that subsequent investigations should take place. Fortunately for our patient, diagnostics and the ERCP timing were mostly unaffected by the pandemic because of the timing being between the initial precautions, when all elective surgeries were cancelled, and the flair of cases in Manitoba currently taking place. Looking forward, these precautions will most likely have to be adjusted again as the pandemic situation changes, but along with it we must ensure the well-being of patients that need relatively urgent investigation and consultations.

### **Conclusion**

The current case highlights an interesting telephone presentation of cholangiocarcinoma, a rare cancer, in the setting of the COVID-19 pandemic. It is promising that the current healthcare system has successfully adapted new practices and is able to provide care to patients such as the subject of this case. This case of jaundice which initially presented over the telephone, was able to move through the process of diagnostic evaluation, treatment of the biliary obstruction and management of subsequent complications.

Work Cited

1. Lowe RC, Anderson C, Kowdley K. Clinical manifestations and diagnosis of cholangiocarcinoma - UpToDate. UpToDate. Accessed August 24, 2020. [https://www-uptodate-com.uml.idm.oclc.org/contents/clinical-manifestations-and-diagnosis-of-cholangiocarcinoma?search=cholangiocarcinoma&topicRef=663&source=see\\_link#H62994116](https://www-uptodate-com.uml.idm.oclc.org/contents/clinical-manifestations-and-diagnosis-of-cholangiocarcinoma?search=cholangiocarcinoma&topicRef=663&source=see_link#H62994116)
2. Khan SA, Davidson BR, Goldin RD, et al. Guidelines for the diagnosis and treatment of cholangiocarcinoma: an update. *Gut*. 2012;61(12):1657-1669. doi:10.1136/gutjnl-2011-301748
3. Hang H, Jeong S, Sha M, et al. Cholangiocarcinoma: anatomical location-dependent clinical, prognostic, and genetic disparities. *Ann Transl Med*. 2019;7(23). doi:10.21037/atm.2019.12.37
4. Haskard Zolnieriek KB, DiMatteo MR. Physician Communication and Patient Adherence to Treatment: A Meta-Analysis. *Medical Care*. 2009;47(8):826–834. doi:10.1097/MLR.0b013e31819a5acc
5. Hartnett KP, Kite-Powell A, DeVies J, et al. Impact of the COVID-19 Pandemic on Emergency Department Visits — United States, January 1, 2019–May 30, 2020. *MMWR Morb Mortal Wkly Rep*. 2020;69(23):699-704. doi:10.15585/mmwr.mm6923e1
6. Tringali A, Loperfido S, Costamagna G. Post-endoscopic retrograde cholangiopancreatography (ERCP) pancreatitis. UpToDate. Accessed August 23, 2020. [https://www-uptodate-com.uml.idm.oclc.org/contents/post-endoscopic-retrograde-cholangiopancreatography-ercp-pancreatitis?search=cholangiocarcinoma&topicRef=632&source=see\\_link#H899104594](https://www-uptodate-com.uml.idm.oclc.org/contents/post-endoscopic-retrograde-cholangiopancreatography-ercp-pancreatitis?search=cholangiocarcinoma&topicRef=632&source=see_link#H899104594)
7. Trogen B. Do Hospital Visitors Impact Patient Outcomes? Clinical Correlations. Published August 3, 2018. Accessed August 24, 2020. <https://www.clinicalcorrelations.org/2018/08/03/do-hospital-visitors-impact-patient-outcomes/>