

Abdominal Pain Clinical Journal

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Abdominal pain is a common chief complaint in health care today. According to Kendall and Moreira (2017), abdominal pain accounts for about 5 to 10 percent of emergency room visits. However, left upper quadrant abdominal pain is a less common complaint compared to the other quadrants (Ecanow & Gore, 2015). In this clinical case study, a 43-year-old Caucasian female presented with left upper quadrant abdominal pain for two weeks. Possible causes of left upper quadrant abdominal pain include constipation, peptic ulcer disease, gastritis, diverticulitis, pancreatitis, pneumonia, spleen abscess, splenomegaly, pancreatic neoplasm, or a myocardial infarction among others (Dains, Baumann, & Scheibel, 2016; Ecanow & Gore, 2015; Heidelberg & Kelley, 2016; Losanoff, 2016). Regardless of what the final cause of the pain may be, it is imperative to thoroughly workup a patient presenting with this complaint.

SOAP Note

ID: A.F., 43-year-old Caucasian married female

Subjective

CC: Left upper quadrant abdominal pain for two weeks

HPI: Pt presents with left upper quadrant abdominal pain for two weeks. Pain began spontaneously and has increased in frequency over past week. Describes pain as intermittent, dull, and aching. Pain does not radiate and is not progressing in severity. Rates pain as 4/10. No aggravating or relieving factors. Has tried maalox and peptobismol without relief. C/o intermittent nausea and bloating associated with the pain. Last bowel movement was two days ago. Usually has a bowel movement daily, but bowel movements have become more irregular recently. Reports formed, hard stool with last bowel movement. Diet consists mainly of vegetables, starchy foods, and dairy products. Denies history of similar episodes, trauma, dietary changes, changes in appetite, difficulty passing stool, dysphagia, indigestion, vomiting, diarrhea, constipation, hematochezia, or melena.

ROS:

General: Denies fever, chills, significant weight changes, fatigue, night sweats, body aches, or recent illness.

Respiratory: Denies cough, chest pain, pleuritic pain, or dyspnea.

CV: Denies chest pain, palpitations, numbness, generalized or extremity weakness, cyanosis, or edema.

GI: See HPI.

GU: Denies dysuria, hematuria, increased frequency, increased urgency to void, flank pain, pelvic pain, abnormal bleeding, or abnormal discharge.

PMH: Endometriosis, uterine fibroids, PCOS

Immunizations: Influenza injection in Oct 2017

PSH: Hysterectomy in 2011; Cesarean sections in 2003 and 2007

Medications:

- Estrogel 0.06% gel 1.25 g/act-1 pump daily applied to both arms
- Testosterone 25 mg/2.5 g PKT 1%-Apply 1/3 packet once daily to abdomen

Allergies: Codeine, morphine, and sulfa drugs

Family Hx:

- Maternal grandfather has heart disease.
- Maternal grandmother has diabetes and a history of stroke.
- Mother has endocarditis
- Remaining family history unremarkable in regards to chief complaint

Social Hx: Consumes caffeine, 1-2 cups of coffee per day. Currently uses alcohol. Drinks socially about one to two times a week. Consumes two 4-6 oz glasses of wine each time. Denies using tobacco or illicit drugs. Does not exercise regularly. Employed as a massage therapist. Denies recent increase in stress.

Objective

Physical Exam:

Vital Signs: T: 98.3 F BP: 110/68 HR: 68 RR: 14 Wt: 151 lbs Ht: 67 in BMI: 23.65

General: Well-appearing Caucasian female in NAD.

Respiratory: Clear breath sounds in all lobes. Respirations even and unlabored. No wheezes, rales, or rhonchi. No retractions or use of accessory muscles.

CV: S1 and S2 audible. PMI nondisplaced. Regular rate and rhythm. No murmurs, rubs, or gallops.

GI: Abdomen slightly distended. Healed surgical scar to lower abdomen from previous c-sections and hysterectomy. Active bowel sounds in all four quadrants. Localized mild tenderness to LUQ. No bruits or rubs. No rebound tenderness or guarding. No tenderness to

RLQ, RUQ, LLQ, or epigastric area. No pulsations, masses, or organomegaly. Negative Murphy's and Rovsing sign

GU: No bladder or CVA tenderness.

Diagnostic Testing:

CBC with Diff-unremarkable

EKG-normal sinus rhythm

Chest x-ray: Air in upper left quadrant. Otherwise, unremarkable.

Assessment

1. R10.10 abdominal pain, unspecified
2. K59.00 constipation, unspecified

Plan

Diagnostics: Abdominal US

Therapeutics: Levsin 0.125 mg tab

Sig: Take 1 tab by mouth every four hours as needed for abdominal spasms.

D: 30 tabs

R: 1

Education: Increase fluid and fiber intake to relieve constipation. May start taking fiber supplement once a day, such as psyllium. Fiber supplements can cause bloating and abdominal pain so it is important to gradually increase the supplement intake over a few weeks to avoid these side effects. Increase intake of fiber-rich foods, such as fruits and vegetables. Engage in regular physical activity, at least 30 minutes per day. Emergent symptoms of abdominal pain include fever, syncope, light-headedness, worsening abdominal pain, blood in stool, black stools, uncontrolled vomiting and/or diarrhea, blood in emesis, chest pain, or dyspnea.

Follow-up: RTC in one week to discuss ultrasound results. Go to the emergency room immediately if symptoms worsen or emergent symptoms develop.

Diagnostic Reasoning Table

| Possible Diagnoses | Pertinent Positives | Pertinent Negatives | Data Needed to Support |
|--|--|--|---|
| <i>Myocardial infarction</i> (Dains et al., 2016; Ecanow & Gore, 2015; Heidelbaugh & Kelley, 2016) | + upper or diffuse abdominal pain +hypertension or hypotension +/- cardiac arrhythmia +/- paradoxical S2 +/- nausea +/- vomiting +/- diaphoresis | - no splenomegaly - no changes in stool pattern or appearance | <ul style="list-style-type: none"> • Serial ECGs • Serial cardiac enzymes |
| <i>Pancreatic neoplasm</i> (Froeling & Kocher, 2018; Heidelbaugh & Kelley, 2016; “Pancreatic cancer,” 2018) | + nonspecific abdominal pain + weight loss + jaundice +/- epigastric mass +/- pale stool | -afebrile | <ul style="list-style-type: none"> • Abdominal ultrasound • CT • Biopsy |
| <i>Splenomegaly</i> (Ecanow & Gore, 2015; Heidelbaugh & Kelley, 2016; “Splenomegaly,” 2017) | + left upper quadrant pain +/- early satiety | -no changes in stool pattern or appearance | <ul style="list-style-type: none"> • CBC with diff • Abdominal ultrasound or CT • Further testing dependent on cause |
| <i>Splenic abscess</i> (Ecanow & Gore, 2015; Heidelbaugh & Kelley, 2016; Losanoff, 2016) | + left upper quadrant pain + fever +/- splenomegaly +/- pleuritic chest pain +/- malaise | -no changes in stool pattern or appearance | <ul style="list-style-type: none"> • CBC with diff • Abdominal ultrasound or CT with percutaneous aspiration |
| <i>Pneumonia</i> (Dains et al., 2016; Ecanow & Gore, 2015; Heidelbaugh & Kelley, 2016) | + abdominal pain + fever + tachypnea + retractions + crackles | -no organomegaly -no changes in stool pattern or appearance | <ul style="list-style-type: none"> • CBC • Chest x-ray |

| Possible Diagnoses | Pertinent Positives | Pertinent Negatives | Data Needed to Support |
|--|--|---------------------|--|
| <i>Pancreatitis</i> (Dains et al., 2016; Ecanow & Gore, 2015; Heidelbaugh & Kelley, 2016) | + history of cholelithiasis or excessive alcohol use + steady left upper quadrant pain that is unrelieved by change in position and radiates to back + nausea + vomiting + diaphoresis + abdominal distention + rebound tenderness | - no organomegaly | <ul style="list-style-type: none"> • CBC with differential • Serum amylase and lipase levels • Triglyceride level • Calcium level • Liver chemistries • Ultrasound • CT |
| <i>Diverticulitis</i> (Dains et al., 2016; Heidelbaugh & Kelley, 2016) | + localized left lower quadrant pain + abdominal tenderness + fever | - no organomegaly | <ul style="list-style-type: none"> • CT • Contrast enema • Cystography • Ultrasound |
| <i>Gastritis</i> (Dains et al., 2016; Ecanow & Gore, 2015; Heidelbaugh & Kelley, 2016) | + constant burning pain + pain exacerbated by alcohol, NSAIDs, and salicylates +/- nausea +/- vomiting +/- diarrhea +/- fever | - no organomegaly | <ul style="list-style-type: none"> • None |

| Possible Diagnoses | Pertinent Positives | Pertinent Negatives | Data Needed to Support |
|---|--|--|---|
| <i>Peptic ulcer disease</i> (Dains et al., 2016; Ecanow & Gore, 2015; Heidelbaugh & Kelley, 2016) | +burning or gnawing pain +pain occurs most often with empty stomach, stress, and alcohol +pain relieved by food intake +/- epigastric tenderness on palpation +/- nausea +/- vomiting | - no organomegaly - afebrile - no changes in stool pattern or appearance | <ul style="list-style-type: none"> • <i>H. Pylori</i> testing • Endoscopy if no response to therapy |
| <i>Constipation</i> (Dains et al., 2016; Heidelbaugh & Kelley, 2016) | +colicky or dull and steady pain that does not progress or worsen +/- palpable fecal mass +/- stool in rectum | - no organomegaly - no diarrhea - afebrile | <ul style="list-style-type: none"> • None |

Differential Diagnoses

Left upper quadrant pain can indicate a wide variety of possibilities. For this encounter, it was important for me to focus on the patient’s description of the pain and her physical exam findings to guide my diagnostic process. A key element of the patient’s history included non-radiating, dull, and aching pain that was not exacerbated by any factors, such as food or alcohol. It seemed to be idiopathic. Upon the initial presentation of the patient, I included gastritis and peptic ulcer disease as two possible diagnoses, but due to the lack of aggravating factors, I placed

them as lower priority on the list (Dains et al., 2016; Ecanow & Gore, 2015; Heidelbaugh & Kelley, 2016).

I also included diagnoses that I would not want to miss, including a myocardial infarction, pancreatic neoplasm, splenomegaly, splenic abscess, pneumonia, and pancreatitis, as each of these diagnoses can lead to serious complications if missed (Dains et al., 2016; Ecanow & Gore, 2015; Froeling & Kocher, 2018; Heidelbaugh & Kelley, 2016; Losanoff, 2016; “Pancreatic cancer,” 2018; “Splenomegaly,” 2017). These diagnoses were given priority and placed at the top of my differential diagnoses. In addition, I considered diverticulitis because, although it more commonly causes left lower quadrant abdominal pain, it can cause pain in the left upper quadrant instead (Dains et al., 2016; Heidelbaugh & Kelley, 2016). Finally, I included constipation at the bottom of the list as it is more benign than the other diagnoses, but still important to identify in order to effectively treat the abdominal pain (Dains et al., 2016; Heidelbaugh & Kelley, 2016). While there are many other possibilities I could have considered in regards to the chief complaint, I was able to rule many of them out immediately based on the lack of stool changes, the quality and severity of the pain, and the length of time the pain has been present.

Actual Diagnosis

Ultimately, my preceptor and I diagnosed the patient with unspecified abdominal pain and constipation based on the results of the testing that was done at the time of the visit. We chose to include constipation because the chest x-ray revealed trapped gas in the left upper quadrant and the patient’s last bowel movement was two days ago, which was abnormal for her. In addition, her chest x-ray did not show any areas of consolidation so we were able to rule out pneumonia. Her complete blood count with differential and electrocardiogram were both unre-

markable, ruling out a myocardial infarction and making a splenic abscess, pancreatitis, and diverticulitis less likely causes (Dains et al., 2016; Ecanow & Gore, 2015; Losanoff, 2016). However, my preceptor still wanted to ensure there were no other underlying factors that may have been contributing to the pain so she ordered further diagnostic testing. The subsequent diagnostic testing would provide a more definitive diagnosis.

Management Plan

Because the exact cause of the abdominal pain was unclear, further diagnostic testing was ordered. My preceptor ordered an abdominal ultrasound to have a more in-depth view of the abdomen and to further clarify the diagnosis. The ultrasound was useful to determine if the pain was caused by a pancreatic neoplasm, splenomegaly, splenic abscess, pancreatitis, or diverticulitis (Dains et al., 2016; Ecanow & Gore, 2015; Froeling & Kocher, 2018; Heidelbaugh & Kelley, 2016; Losanoff, 2016; “Pancreatic cancer,” 2018; “Splenomegaly,” 2017). While all of those diagnoses seemed to be less likely causes, further investigation was warranted to ensure they were not present. My preceptor chose to order an ultrasound because it is noninvasive and does not expose the patient to radiation (Ecanow & Gore, 2015). In addition, an ultrasound is a beneficial screening tool for determining splenic size and detecting left upper quadrant fluid (Ecanow & Gore, 2015). The ultrasound was a key diagnostic tool in clarifying the cause of the abdominal pain.

In regards to therapeutics, my preceptor prescribed levsin to ease the abdominal spasms. Levsin is an antispasmodic and anticholinergic medication that decreases gastric secretions and motility of the gastrointestinal tract (Jeske, 2018). Although a side effect of levsin is constipation, my preceptor felt the frequent abdominal spasms were causing the constipation, which fur-

ther exacerbated the pain; therefore, relieving the spasms would resolve the constipation. In addition to prescribing levsin, my preceptor and I educated the patient on the importance of increasing her fiber intake to avoid further constipation from the levsin and to help relieve the abdominal discomfort.

The patient education provided at the visit regarding fiber intake focused on dietary changes. The patient had a primarily healthy diet, but her diet did not contain enough fiber. According to Tse et al. (2017), patients who have low-fiber diets should be started on a fiber supplement, such as psyllium. It was important to inform the patient that fiber supplements can cause bloating or abdominal pain so it would be easiest to gradually increase the fiber supplement intake to a maximum dose of 12 grams per day over a short period of time to decrease those side effects (Bharucha, Pemberton, & Locke, 2013; Tse et al., 2017). While the recommended daily intake of fiber for women is 25 grams, it was likely the patient was receiving some fiber already from her current diet (Tse et al., 2017). We also discussed increasing her fluid intake, increasing her intake of natural fiber sources, such as fruits and vegetables, and engaging in regular physical activity (Tse et al., 2017). All of these elements are beneficial in preventing constipation. Discussing lifestyle and dietary changes to avoid constipation was pertinent in the management of this patient's diagnosis.

In addition, I reviewed the emergent signs and symptoms that would warrant immediate medical attention. These signs and symptoms include fever, syncope, light-headedness, worsening abdominal pain, blood in stool, black stools, uncontrolled vomiting and/or diarrhea, blood in emesis, chest pain, or dyspnea ("Acute abdominal pain in adults," 2016). I informed the patient to go to the emergency room should any of these symptoms develop. In regards to follow-up,

my preceptor informed the patient she needed to follow up in one week to review the results of the abdominal ultrasound she was having later in the week.

Analysis of Encounter

The final diagnosis for this patient was ultimately constipation. The abdominal ultrasound was unremarkable, thus ruling out a pancreatic neoplasm, splenomegaly, splenic abscess, pancreatitis, and diverticulitis. In addition, the patient found relief with the levsin and increased fiber intake, thus ruling out peptic ulcer disease and gastritis at the time. No further diagnostic testing was indicated and no changes to the treatment plan were necessary.

Reflecting on the diagnostic testing that was ordered for this encounter, each test was important to adequately assess this patient. In patients presenting with acute abdominal pain, additional diagnostic testing aside from an abdominal ultrasound is warranted. To further investigate the chief complaint, my preceptor ordered a complete blood count with differential, an electrocardiogram, and a chest x-ray at the time of the visit. A complete blood count would have revealed if an infectious process was causing the pain (“Acute abdominal pain in adults,” 2016; Bharucha et al., 2013). Because a myocardial infarction can present as gastrointestinal symptoms, especially in females, an electrocardiogram was pertinent to detect any underlying cardiac issues (Zafari, 2018). In addition, the chest x-ray was useful to rule out certain diagnoses that may uncommonly present as abdominal pain, such as pneumonia (Dains et al., 2016). Because there are numerous possible causes of left upper quadrant abdominal pain, my preceptor wanted to utilize as many noninvasive in-house tests as she could in order to narrow down the differential diagnoses list.

Available evidence-based management guidelines addressing abdominal pain also support the management decisions for this encounter. According to Ecanow & Gore (2015), there is no gold standard imaging test for left upper quadrant abdominal pain. However, the American Academy of Family Physicians recommends ultrasonography in the setting of acute abdominal pain located in the right upper quadrant (Cartwright & Knudson, 2015). While this patient did not have right upper quadrant abdominal pain and the American Academy of Family Physicians does not specifically discuss the workup of patient with left upper quadrant abdominal pain in their updated guidelines, the guidelines can be tailored to this patient's case. As discussed previously, an ultrasound is indicated to diagnose many of the potential causes for left upper quadrant abdominal pain and was useful in ruling out multiple serious causes for this complaint.

In regards to the final diagnosis of constipation, specific evidence-based guidelines provide further support for the diagnostic and treatment plan for this patient. According to the American Gastroenterological Association, a complete blood count is indicated to rule out other causes of abdominal pain and/or stool pattern changes (Bharucha et al., 2013). In regards to treatment, the American Gastroenterological Association recommends initial treatment for constipation includes a gradual increase in fiber intake through dietary changes and supplements (Bharucha et al., 2013). A trial of increased fiber intake should be performed before further diagnostic testing is done or the treatment plan is changed (Bharucha et al., 2013). Based on the presenting signs and symptoms of the patient and the lack of findings from the diagnostic testing, it was appropriate to treat this patient as if she had constipation and the constipation was treated adequately according to the established guidelines.

Not only can constipation be treated with an increase in fiber intake, but another agent can be added as well. An osmotic agent can also be used to treat and prevent constipation in addition to lifestyle and dietary changes (Bharucha et al., 2013; Tse et al., 2017). At the time of the visit, my preceptor chose to focus on lifestyle and dietary changes first before adding additional supplements, aside from the fiber supplement. She wanted to avoid overwhelming the patient and wanted to use the least amount of supplements as possible.

While the case was managed closely to suggested guidelines by professional organizations as discussed above, there are a few elements of the visit I would change. Regarding the history of the pain, I would have liked to have gathered additional information about the reported episodes. I should have inquired further about the duration and progression of the pain (“Acute abdominal pain in adults,” 2016; Macaluso & McNamara, 2012). More specifically, I should have asked about how often the pain was occurring per week, if it occurred more often at certain times of the day, and how it was affecting her life. This information would have helped me to further differentiate the potential causes of her complaint.

In regards to the physical exam, I would have liked to have included more abdominal maneuvers, such as the psoas sign and the obturator sign to further assess for peritoneal irritation (Heidelbaugh & Kelley, 2016; Macaluso & McNamara, 2013). Although there are not specific maneuvers for left upper quadrant abdominal pain, the pain could have been referred pain from another location. Also, a digital rectal exam would have been useful in confirming the diagnosis of constipation and also checking for occult blood (Bharucha et al., 2013; Heidelbaugh & Kelley, 2016; Macaluso & McNamara, 2012). Although the patient denied blood in her stool, it may have been a scant amount that would have been difficult to notice. In addition, assessing for

stool in the rectal vault would have been beneficial to support the diagnosis of constipation. In regards to other diagnoses I should have considered, I feel that my preceptor and I covered a wide range of possibilities, while still being realistic. However, I could have considered a left upper quadrant small bowel obstruction as well. This diagnosis usually presents with periumbilical pain, but can manifest as left upper quadrant abdominal pain (Ecanow & Gore, 2015). Other characteristics of a small bowel obstruction include nausea, reduced bowel movements, and possibly vomiting (“Acute abdominal pain in adults,” 2016). This patient had similar presenting symptoms so it would have been reasonable to include this diagnosis on the differential diagnoses list.

While my preceptor ordered appropriate lab work for the presenting complaint, I would have liked to have ordered additional lab tests as well. Because pancreatitis can present as left upper quadrant abdominal pain, I would have ordered a serum amylase and serum lipase either to confirm or rule out this diagnosis (“Acute abdominal pain in adults,” 2016). In addition, if I did not have access to an x-ray machine at the time of the visit, I do not think I would have ordered a chest x-ray. Even with the access, I would have considered an abdominal x-ray instead of a chest x-ray for a better visualization of the entire abdomen. The patient’s symptoms and physical exam findings did not provide an indication for a chest x-ray and the ultrasound would have provided the information I needed if I did not have a chest x-ray completed. In addition, x-rays provide limited information and other diagnostic studies are usually more useful when evaluating abdominal pain (Macaluso & McNamara, 2012). Although the chest x-ray was helpful in ruling out certain diagnoses, I do not believe it was absolutely necessary in diagnosing this patient based on her presentation.

Furthermore, I would have also considered additional imaging or possibly ordered different imaging than an ultrasound for the pain. According to Ecanow & Gore (2015), while there is no standard imaging test for left upper quadrant abdominal pain, a CT scan is the optimal imaging test for identifying the most important causes of this type of pain. Even though an ultrasound is a good diagnostic tool for evaluating abdominal pain, a CT scan would be better suited for evaluating the location of this patient's pain. Additionally, I considered ordering a urea breath test since peptic ulcer disease was a possible diagnosis, but felt it could be completed later depending on the ultrasound results and if the patient was unresponsive to the initial treatment plan (Dains et al., 2016). Pertaining to the previous testing that was ordered, including the complete blood count and electrocardiogram, I agree that those tests were necessary to rule out some of the more serious diagnoses, like a myocardial infarction or infection.

Reflecting back on the management plan, I feel that the plan was very thorough and addressed the pertinent aspects of treating the patient's pain while waiting for a final diagnosis. She was prescribed medication to treat the chief complaint, was educated on important lifestyle and dietary changes to address and prevent future episodes of the pain, and was educated on the serious signs and symptoms that would warrant immediate medical attention should her condition change. In addition, further testing was ordered to ensure a serious diagnosis was not missed and the patient was informed of an appropriate follow-up time frame. Each element of planning was covered in the patient's discharge.

From this case, I have learned there is a wide range of potential causes for left upper quadrant abdominal pain. Prior to this visit, I was more familiar with the obvious causes of pain located in other abdominal quadrants. For example, when a patient presents with right lower

quadrant abdominal pain, I always know to include appendicitis in my differential diagnoses, if applicable. However, when this patient presented with left upper quadrant abdominal pain, I was not sure what common diagnoses usually cause that type of pain or what diagnoses I should be considering, aside from a myocardial infarction since it can present as gastrointestinal symptoms. Working through this case vastly expanded my knowledge regarding the workup and treatment of abdominal pain. However, I feel that I am still learning to understand the role of imaging in the presentation of abdominal pain. More specifically, I am continuing to learn how to effectively determine the most appropriate type of imaging based on the location of the pain and also the reasons why one type of imaging is preferred over another due to the affected abdominal site.

Overall, this experience has improved my diagnostic reasoning skills and confidence in addressing abdominal pain complaints. This case has allowed me to gain a better awareness of how to quickly narrow down a vague list of differential diagnoses and how to utilize available tests at the time of the visit in the most effective way. I chose this case because it was not a common chief complaint I encountered in any of my clinical rotations and it vastly increased my knowledge base on the subject. This visit initially perplexed me and I wanted a better understanding of how to appropriately investigate this chief complaint. I also wanted to fully understand why this patient was managed how she was or if there were elements of the plan that were missed. I found this case very interesting and a valuable learning opportunity.

Peer Feedback

The peer feedback element was very beneficial for improving the layout of my paper. From the feedback I received, I clarified how each differential diagnosis was ruled out and reorganized my analysis of the encounter to better coordinate my thoughts. In addition, I had a few

conflicting statements that I reworded to provide a clearer description of the patient's management plan. Overall, I felt the peer feedback was very useful to help me organize my paper in a clear and more concise manner. I really appreciated having a second person who understood the content review my journal because she was able to provide suggestions for areas I had overlooked. The peer feedback was a significantly helpful component of this assignment.

Summary

A chief complaint of left upper quadrant abdominal pain can indicate a broad range of possible causes, from life-threatening to benign. By gathering a thorough history and performing a focused physical examination, the differential diagnoses can be promptly narrowed down to more likely causative factors. Through review of evidence-based guidelines and extensive research, I have gained an increased understanding of how to manage this chief complaint so that I may serve my patients better in the future. In addition, the self-reflection and the feedback of my peer have significantly improved my clinical reasoning and diagnostic skills. I will utilize the growth from this experience to continue to enhance my practice and further develop my skills.

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