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Case Report

Pancreatic Laceration due to Blunt Abdominal Trauma

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Abstract

Trauma is one of the major causes of morbidity and mortality in the pediatric population. 90% of childhood injuries are blunt trauma. Pancreatic injury is seen with a frequency of 3% - 12% in blunt traumas and is the 4th most common blunt trauma injury.

Pancreatic laceration due to blunt abdominal traumas in childhood is a rare condition and the treatment approach was not standardized. In this case, the patient's admission findings, clinical course, diagnostic methods and conservative treatment process of the patient who developed laceration in the pancreatic corpus after falling down the stairs are explained.

Keywords: *Pancreatic Laceration; Blunt Abdominal Trauma*

Introduction

Trauma is one of the major causes of morbidity and mortality in the pediatric population.

Case Report

A sixteen-year-old male patient. He applied to the external center emergency service as a result of falling from the stairs. The vitals of the patient were found to be stable. No abnormal physical examination findings were found in the examination of the patient who had abdominal pain. No acute pathology was detected in the upper and lower abdominal tomography performed in an external center. Laboratory findings revealed Amylase: 117 u/L (30 - 100), Hemoglobin: 13.4 g/dl (12.2 - 18.1). The patient was admitted to our hospital because his abdominal pain did not go away.

The patient who applied to us 4 hours after the incident; His blood pressure was 132/75 mmHg, heart rate was 75 beats/min, respiratory rate was 20/min, and fever was 36.2 degrees Celsius. On physical examination, there was no dermabrasion or ecchymosis in the abdomen. There was no abnormal physical examination finding except tenderness in the epigastric and right hypochondriac areas. Repeated abdominal CT: High-density free fluid around the pancreas was observed. Laboratory findings; leukocyte 16.8 u/l (4.6 - 10.2), hemoglobin 12.1 g/dL (12.2 - 18.1), platelet 275 u/l (142 - 424), Amylase 830 U/L (25 - 125), Lipase: 812 was U/L (8 - 78).

The patient was admitted to the Pediatric Surgery service for follow-up and treatment.

A significant increase in Lipase (1358 U/L) and Amylase (2090 U/L) values was observed in the blood test 3 days after the accident. Pancreas dissection was detected on repeated abdominal tomography. In the MRCP, rupture in the pancreatic corpus section and an increase in the amount of fluid around the pancreas were observed. A stent was placed in the pancreas with ERCP. Pseudocyst formation was observed in the pancreas on the 8th day after the ERCP procedure. The patient's clinical and laboratory findings improved significantly. The patient was discharged after an outpatient control was established.

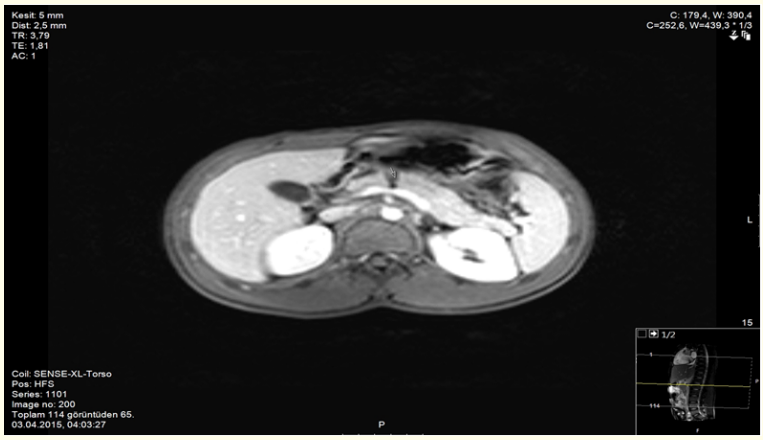

Figure 1: *mrcp pancreatic laceration.*

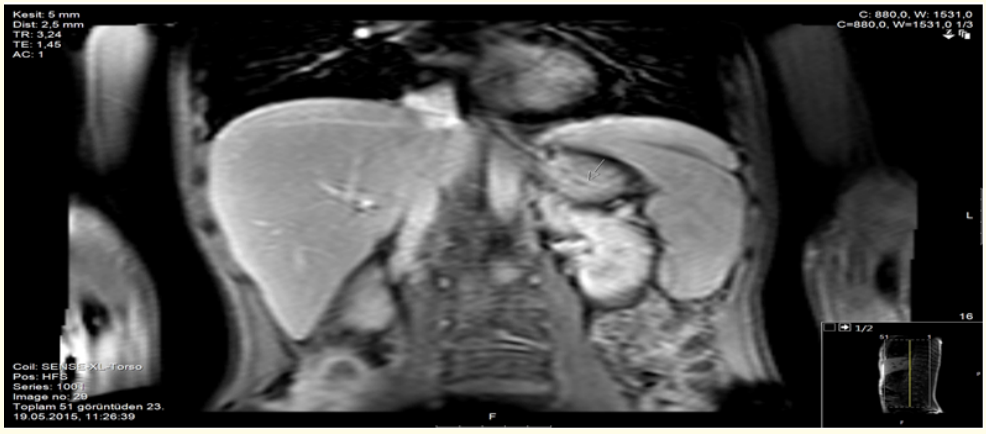

Figure 2: *Pancreatic pseudocyst.*

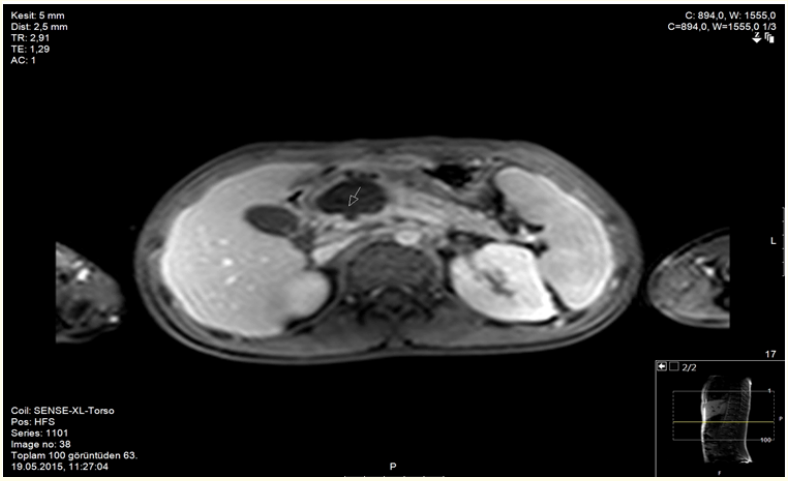

Figure 3: *mrcp pancreatic pseudocyst.*

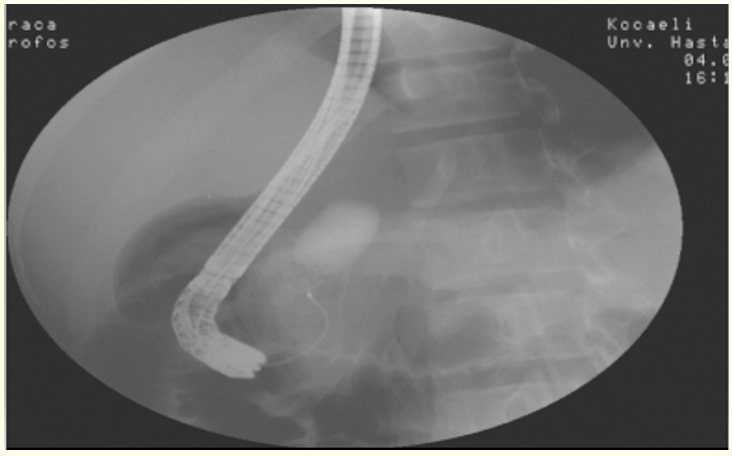

Figure 4: *Sphincterotomy with ERCP.*

Discussion

10% of posttraumatic deaths in children are due to abdominal trauma. In abdominal trauma, spleen, liver, and kidney injuries present immediately after the trauma, whereas intestinal and pancreatic injuries often present late and result in a high rate of morbidity.

Although the pancreas is the most important source of serum amylase, isolated hyperamylasemia is not a reliable indicator for pancreatic trauma. But it is a good scanning tool. Although it is a good screening tool, Amylase level can remain normal in the first 48 hours after trauma. In patients who present with symptoms such as pain, vomiting, etc. in the epigastric region after trauma, and whose amyla- lipase levels are high, further examination should be performed for pancreatic injury. In addition, persistent high amylase levels may be a warning for the development of complications.

Ultrasonography is the first-choice diagnostic method in abdominal traumas. If free fluid is detected in the abdomen, computed tomography is required for further examination to rule out accompanying organ injuries such as liver and spleen. In our case, free fluid was observed on ultrasound, and other organ pathologies were excluded by computed tomography.

The probability of death is high in pancreatic duct injuries. For this reason, ERCP or MRCP should be applied following other treatments in hemodynamically stable patients diagnosed with pancreatic duct injury. With MRCP, pancreatic duct injuries are detected non-invasively, accurately and quickly, and with ERCP, treatment is provided by placing a stent in the pancreatic duct in a possible lesion.

In our case, the diagnosis of pancreatic duct injury was made by MRCP, not CT. After the diagnosis, a stent was placed in the lesion with ERCP and pancreatic pseudocyst formation was observed in the clinical follow-up.

Pancreatic pseudocysts in children most often develop secondary to blunt abdominal trauma. The incidence of pancreatic pseudocyst development due to blunt abdominal trauma has been reported between 0% and 69%. The aim of the conservative approach is organ preservation and aims to protect the patient from possible complications that may occur after surgical intervention. It has been reported that the rate of recovery with conservative treatment is significantly higher in traumatic pancreatic pseudocysts compared to pancreatic pseudocysts formed by other causes. In various studies, it has been reported that an interventional procedure is required if the pseudocyst is larger than 6 cm in diameter and does not improve with 6 weeks of conservative treatment. In our case, the diameter of the pseudocyst was found to be 16 mm and conservative treatment was continued [1-4].

Conclusion

Although patients do not show symptoms at first after trauma, pancreatic injuries should be considered and patients should be followed up for possible complications. Persistent Hyperamylasemia should suggest the development of post-traumatic complications.

Conservative treatment is a priority in major pancreatic injuries in children, especially since it is an organ-preserving method.

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