

Case report:

Mumps: A Rare Cause of Pancreatitis

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Abstract:

Acute pancreatitis related to mumps infection is rarely reported. In this case report, we highlight a case of acute pancreatitis caused by mumps infection in adulthood. A 25-year old woman treated for mumps developed sudden onset of vomiting and epigastric pain. She had an elevation of serum amylase and was treated for acute pancreatitis. She showed remarkable improvement of clinical symptoms with supportive treatment and after her bilateral parotid swelling receded.

Keywords: Mumps, pancreatitis, rubulavirus, vaccination.

International Journal of Human and Health Sciences Vol. 05 No. 02 April'21 Page : 261-263

DOI: <http://dx.doi.org/10.31344/ijhhs.v5i2.272>

Introduction

Acute pancreatitis is a rare complication of mumps, an infection that usually affects children who will normally acquire lifelong immunity afterward. We report a case of a woman with acute pancreatitis caused by mumps re-infection in adulthood.

Case Report

A 25-year-old Malay female with a complete immunisation record during childhood presented to otorhinolaryngology clinic with 2 days history of bilateral cheek swelling associated with fever and cough. The patient was treated as viral mumps and discharged with analgesic, anti-histamine, and oxymetazoline nasal spray.

About 1 month later, she presented again to our emergency department with 5 days history of recurrent bilateral swelling of her cheeks. There was no breathlessness or dysphagia. She denied any loss of weight but had poor oral intake because of the resulting trismus. She doesn't consume alcohol and had no history of anorexia nervosa before.

Clinical examination revealed her to be alert and mildly dehydrated. There was no discharge coming from the Stenson's and Wharton's ducts. Her mouth opening was only 3 finger breadths

in widths and her oral hygiene was fair. Other systematic examination was unremarkable.

She was diagnosed with mumps. Subsequently, she was admitted and started on a 3rd generation cephalosporin to cover for bacterial infection as well as being given hydration support. Upon admission her total white blood cell was $7.2 \times 10^9/L$ with predominance of neutrophil, platelet was $177 \times 10^9/L$ and haemoglobin was 151 g/L. Her renal profile was normal otherwise.

The next day, she developed non-projectile vomiting with epigastric pain. Abdominal palpation revealed tenderness over the epigastric area with no guarding.

Her serum amylase was raised at 1800 U/L, with mildly elevated ALT 63 U/L and AST 53 U/L. Other liver function parameters were within normal ranges. Corrected serum calcium was 2.1 mmol/L.

Transabdominal sonography was performed and there was no peripancreatic fluid seen. The pancreatic duct as well the intrahepatic and extrahepatic ducts were not dilated. The gallbladder was well distended but with no calculi inside and the common bile duct dimension was within normal ranges.

A diagnosis of acute pancreatitis was made, and

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she was treated conservatively with ibuprofen to counter the abdominal pain and also anti-emetic to control her vomiting. Her abdominal pain resolved on the 3rd day of admission. Her parotid swelling also slowly receded. She was able to tolerate orally and completed antibiotic for a week.

During her ensuing monthly follow-up visit at the clinic, her parotid swelling had completely subsided. We also explored the possibility of autoimmune cause for her parotitis and send connective tissue disease markers such as ANA, Rheumatoid factor, C3 and C4 which turned out to be non-significant.

Discussion

Mumps is a well-known childhood disease that is caused by an enveloped RNA virus which belongs to the Rubulavirus in the family Paramyxoviridae¹. It is highly contagious, and the principal mode of transmission is usually via infectious air droplet. Direct contact with contaminated fomite can also results in infection. Patient can become infectious 1-2 days prior to developing any symptom and remains so for 9-10 days afterwards.

Following infection by the virus, symptoms may start with a short prodromal phase of malaise, reduced appetite, headache, and low-grade fever. Common clinical presentation is painful swelling of the parotids which occur in almost 95% of the cases². The disease has a predilection for the glands with one third of the cases presented with epididymo-orchitis and, in female; 5% of those who were infected presented with oophoritis². Around 4% of mumps infection gave rise to acute pancreatitis and sometimes this could be the only presentation without any salivary gland manifestation³. CNS infection may manifest as encephalitis, but although it is exceptionally rare; the associated complications such as facial palsy, ascending polyradiculopathy or flaccid paralysis can be very disabling.

Parotid gland swelling is the clinical hallmark of mumps and, rarely; other investigation are done to look for other causes of the parotid swelling. However, when the main diagnosis is in doubt; laboratory confirmation is sometimes needed and can be done via few techniques including detection of viral nucleic acid, measurement of serum IgM antibody concentration or by isolating the virus². It is worth noting that due to limited window of opportunity and the need to coincide with the presence of antibody, the virus can be exceedingly difficult to be isolated despite apparent viraemia. Generally, exposure to infection or vaccination

would confer permanent immunity to any affected individual. A study in the UK showed nearly 92% of the 15-year-old population had mumps antibodies, rendering the disease largely limited to children and young adults⁴. However, there are few case reports showing that adults are also susceptible for re-infection⁵. Our patient presented with recurrence of similar symptoms within one month apart and this warrant further investigation, especially to look at the avidity of IgG against mumps antigen for possible secondary vaccine failure⁶

There is no definitive treatment for mumps complicated with acute pancreatitis as it is self-resolving. The mainstay of management is to provide supportive and symptomatic treatment accordingly e.g. hydration, adequate analgesia to control the pain and a low-fat diet to reduce the stress on the pancreas. In addition, an appropriate monitoring protocol is required as the condition may progress, and patient could develop complications of acute abdomen such as necrotizing pancreatitis which warrant urgent surgical intervention.

Other differentials for acute pancreatitis such as acute cholelithiasis, hypertriglyceridemia, hypercalcemia and chronic alcoholism need to be explored before committing to mumps. Despite being relatively uncommon, autoimmune pancreatitis should also be considered. Our patient's history with its benign clinical course, however, suggests that the diagnosis of mumps pancreatitis appears more likely.

Conclusion

In a young adult with acute pancreatitis and parotid swelling, mumps re-infection needs to be considered.

Acknowledgements: We thank the patient and her family for the approval to publish this case report. Verbal informed consent was obtained. We also thank all clinicians that provided clinical information.

Conflict of interest: The authors declared no conflict of interest.

Funding statement: This case report did not receive any special funding.

Ethical Approval Issue: Verbal informed consent was obtained.

Author's contribution: Conception: AZMS, UAZ; Collection and assembly of data: AZMS, UAZ; Writing manuscript: AZMS, UAZ; Editing and approval of final draft: AZMS, UAZ.

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