



CASE REPORT

A Case of Mumps Orchitis without Parotitis in a Vaccinated Post Pubertal Male

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Abstract

Mumps is a viral infection of the salivary glands that commonly present as unilateral or bilateral parotitis usually during childhood. Serious complications of mumps include meningitis/encephalitis, as well as orchitis in adolescent boys and adult men. We report a case of a 29-year-old male patient with mumps associated bilateral epididymo-orchitis without signs of parotitis. The diagnosis was confirmed clinically and serologically by IgG and IgM titers.

Keywords

Mumps, Orchitis, Epididymo-orchitis

Introduction

Mumps is a viral infection frequently accompanied by manifestations of nonspecific prodrome of low-grade fever, malaise, headache, myalgias, and anorexia, followed within 48 hours by parotitis, which is a classic feature, present in 95 percent of symptomatic cases of mumps, due to direct infection of ductal epithelium and local inflammation, and can last up to 10 days. Asymptomatic infection occurs in 15 to 20 percent of cases, and nonspecific or predominantly respiratory symptoms are seen in up to 50 percent of cases in whom the diagnosis of mumps is not usually made. Epididymo-orchitis, the most common complication of mumps infection in the adult male, may develop in up to 38 percent of infected post pubertal males. Symptoms are characterized by the abrupt onset of fever of 39 to 41 °C and severe testicular pain, accompanied by swelling and erythema of the scrotum. While testicular atrophy has been documented in as many as 30 to 50 percent of patients following mumps orchitis and impaired fertility in approximately 13 percent, sterility is estimated to be

rare. The risk of sterility is higher in men who have bilateral orchitis. A possible association between mumps orchitis and the subsequent development of testicular cancer has been evaluated in several retrospective case series. Despite the interest and attention which have been directed to the disease, there is comparatively a little knowledge regarding orchitis associated with mumps without parotitis.

Case Report

A 29-year-old white male with no significant past medical history presented with 3 day history of progressively worsening fatigue, malaise, sore throat, headaches. He presented to the urgent care the night before with the same symptoms. He was given ibuprofen without improvement. He had generalized body aches, and weakness that made him unable to open the water tap in the morning, severe sore throat, and odynophagia as well as testicular pain. He described the headache as bifrontal, band like, constant, in his eyes, no photophobia and associated with nausea. He does not usually get headaches. He travelled to Aruba 1 month before and denies any tick bites or sick contacts. He had chills, no fever, night sweats, or weight loss. He denies syncope, seizure or change in the vision or speech. No cough, chest pain, shortness of breath, palpitations or change in bowel habits. No urinary symptoms. No focal limb weakness, numbness, or speech problem. Noskin rash.

He works in construction as a carpenter. He is married and has a 9-month-old infant at home. The patient is monogamous with one female partner and does not use protection. He denies any new sexual contacts. He does not use tobacco products, but he uses marijuana

daily for recreational. He drinks a couple of beers after work. He had recent coloring of his tattoo on his right arm, he always goes to the same tattoo shop where they use a sterilized kit, which is always opened in front of him. His vaccination history is all complete, including vaccination against mumps, rubella and measles; including two MMR vaccinations, however the strain was not documented.

In the Emergency Department, the patient's blood pressure was 130/69, pulse 104, respiratory rate 18, temperature 99.4 °F. Pulse oximetry 98% on room air. The patient received 30 mg IV Solu-Medol, 1 L of normal saline and 2 g IV ceftriaxone. HIV Ab test was negative. Chest x-ray was normal.

On examination, he is a well-developed, well-nourished muscular male who is in no acute distress. Sclerae are anicteric. Mucous membranes are pink and moist. Neck is Supple. There is no palpable lymphadenopathy in the anterior, posterior cervical, supraclavicular or axillary chains. He has a faint blanching rash on the posterior neck region. He is noted to have a tattoo on his right upper extremity and back, with no signs of erythema or infections. On genito-urinary exam, he is a circumcised male. No urethral discharge noted. Testes are descended bilaterally, with swollen erythematous scrotum, and bilateral tenderness in the testes and on tethering of his epididymal cord.

His temperature rose to 100.4 °F. The patient had worsening headache and neck stiffness. Neurology recommended doing a head CT scan before the lumbar puncture. The CT scan came back normal. Lumbar puncture was done which came back clean, showing a negative Gram stain and no organisms. Viral panel was sent, including EBV, cytomegalovirus, and mumps was sent to the state lab. The patient received IV ceftriaxone and doxycycline.

ID was consulted which recommended continuing the doxycycline and stopping the ceftriaxone. The patient was improving day by day and on the day of discharge regained most of his strength, and he was moving around. His generalized malaise and aches got better. On physical examination, he was stable, maintaining saturation on room air. His testicular erythema, swelling and tenderness were gone.

The patient was started on p.r.n. pain medications, IV Ringers lactate and antibiotics, which were stopped on discharge. The patient was instructed to avoid contact with his 9-month-old infant until the results of the mumps result comes back from the state lab and reported to his primary care physician.

There were also some pending tests at the time of discharge, including screening tests for SLE, EBV, CMV and tick borne disease like Lyme's and Ehrlichia, and mumps serology IgG and IgM, as well as viral culture, which needed to be sent to the state lab. The patient

was feeling better at the time of discharge. He was discharged home on no antibiotics. Later, the results came out from the state lab positive for mumps serology IgG (given his vaccination history) and IgM (indicating mumps infection). Other test results were negative. There were no reported mumps cases in Aruba around the time of his visit, indicating an isolated case rather than mumps outbreak.

Discussion

In the United States, the incidence rate of mumps is several hundred to thousands of cases a year, most typically seen among college students who have a high vaccination rate [1]. The infection is spread from person to person via direct contact of respiratory droplets or saliva of an infected person, contaminated fomites or transplacental infection from mother to fetus, with the incubation period being about 12 to 25 days [2]. The patient is infectious from 3 days prior to 4 days after the onset of the illness [2]. The virus replicates in the nasopharynx and regional lymph nodes with subsequently spread to multiple sites [3]. Up to 70 percent of patients develop symptoms of parotitis, which could be either unilateral or bilateral, and typically tender to palpation. Nonspecific prodromal symptoms include a low-grade fever, malaise, headache, and respiratory symptoms. Fifteen to fifty percent of cases may present with orchitis, typically in post pubertal males, but sterility is rare. Less common, but more serious complications include aseptic meningitis, encephalitis, and pancreatitis. Interestingly, mumps is one of the most common causes of acquired unilateral sensorineural hearing loss.

Diagnosis can be made clinically, given the characteristic parotid gland swelling, with confirmation made by detection of IgM antibodies in acute infection, positive mumps viral culture or virus detection by reverse transcriptase-polymerase chain reaction from buccal and oral swab samples [2].

The mainstay of treatment is supportive care as there is no specific antiviral therapy currently available, with the patients placed on droplet precautions and isolated for five days after the onset of parotitis [4]. As preventative measures, routine vaccination with the combination Measles, Mumps, and Rubella (MMR) vaccine is recommended for most people 12 months or older [4]. Currently no strong evidence exists for MMR vaccine for post exposure prophylaxis. The vaccine efficacy is about 88 percent with the administration of two vaccine doses, but the immunity can diminish over a prolonged period of time [4].

Conclusion

Mumps orchitis is a serious complication in post pubertal males which can happen without mumps parotitis. It is important to have a low threshold of suspicion even in vaccinated cases. However, the mainstay of treatment is supportive care.

Disclosure of Potential Conflicts of Interest

No conflict of interest for all authors.

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Ethical Approval

I read and complied with the policy of the journal on ethical consent, ethical approval was not required.

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