Inflammation and Infection

Benign Testis Mass After Viral Infection

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**A R T I C L E  I N F O**

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**A B S T R A C T**

We present two cases of viral associated orchitis and subsequent testis masses concerning for malignancy both on physical exam and scrotal ultrasound. In both cases, the patients underwent radical orchiectomy after a discussion of management options. Both pathologic analyses were negative for malignancy, and our literature search revealed no other similar case reports. We review our two cases specifically, as well as briefly review orchitis and discuss possible management strategies of similar cases.

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**Introduction**

Viral infections have long been known as a potential cause of orchitis in many ages of the male population.¹ It is estimated that 20–30% of those with mumps have orchitis at the time of presentation.¹ Case reports exist of a wide variety of viral illnesses with concomitant orchitis; however, to our knowledge there has never been a documented case of a benign testicular mass following viral infection. We report 2 such cases in otherwise healthy males.

**Case report**

The first patient is a 36 year old male referred after discovering a left sided testicular mass on self-exam. He reported first noticing this mass 1 week prior to presentation. He denied trauma. On further questioning, he reported an episode of hand, foot, and mouth disease 3 months prior. He contracted this viral illness from his toddler son and also reported bilateral orchalgia during that time. He had no prior history of orchalgia and had no other pertinent medical history. On physical exam the patient had a nontender, 1 cm firm mass in the upper pole of the left testicle. He was sent that day for a scrotal ultrasound, chest X-ray, and laboratory data. The only pertinent finding of this workup was the concerning hypoechoic, solid appearing testicular mass (Fig. 1). The patient was counseled on treatment options. While the mass was worrisome, given the history of viral illness, he was given an option for repeat exam and ultrasound in 2 weeks. He was also counseled on possible open biopsy and frozen section prior to orchiectomy.

After being informed of the possibility of a false negative frozen section, he did not wish to pursue this approach. The patient eventually settled on radical orchiectomy due to his anxiety over a malignancy. His surgery was uneventful. Final pathology revealed inflammation, fibrosis, and atrophy. No malignant cells were identified. The second patient was also 36 years old and was referred after being seen in the emergency department with right sided orchalgia. Ultrasound at that visit revealed a hypoechoic, solid appearing testis mass on the right side (Fig. 2). He was seen in clinic shortly after his initial visit and was counseled similarly to the first patient. Tumor markers were within normal limits. Due to patient anxiety, he too elected radical orchiectomy. His final pathology returned as a 2 cm hematoma with infarcted seminiferous tubules. Orchitis is a known complication of many viral illnesses; however, literature review did not reveal a palpable or radiographic testicular mass in any of these patients.

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Figure 1. Hypoechoic, solid appearing mass of left testis.
Testicular masses are commonly referred to urologists. While most solid appearing masses are removed via radical orchiectomy, there are some testis tumors, e.g. lymphoma, that are treated systemically. Isolated orchitis is rare and is usually due to viral hematogenous spread.\(^1\) The mumps virus is most commonly involved but others such as adenovirus and enterovirus are also seen.\(^1\) Coxsackie virus, known for causing hand, foot, and mouth disease, is one type of enterovirus that has previously been documented as a cause of orchitis. The astute urologist will also consider sexually transmitted diseases, UTIs, tuberculosis, fungal, and parasitic origins of orchitis. In addition, some men may have non-infectious orchitis. The above cases are exceedingly rare not only because of the firm masses palpable on exam, but also the radiographic findings. Our literature search did not reveal other documented cases. Due to our patients’ anxiety about a malignancy, considering the mass as viral in origin did not change the management for these cases. Other patients, if appropriately counseled, may choose to delay surgical intervention for a brief period of time allowing for resolution of a viral induced mass and avoiding surgery altogether. This approach must be weighed against the risk of metastatic spread in testis carcinoma.

**Conflict of interest**

No disclosures.

**Reference**

1. Nickel JC. Prostatitis and related conditions, orchitis, and epididymitis. In: Wein AJ, ed. Campbell–Walsh Urology. 10th ed. Philadelphia, PA: Elsevier Saunders; 2011 [chapter 11].