Bladder chondroma: a rare case of bilateral loin pain in an adult patient

Clinical History:

A 65-year-old lady presented to her general practitioner with a 6 month history of intermittent bilateral flank tenderness in association with dysuria/lower urinary tract symptoms. She underwent full history, examination and uro-gynaecological work up of her lower urinary tract symptoms.

Imaging Findings:

She underwent ultrasonographic imaging of her bladder and lower urinary tract which identified a 15mm submucosal bladder wall mass abutting the right vesicoureteral junction. There was no overt fluid signal or vascularity with in the mass lesion. It was thought unlikely to represent a urethrocele and a transitional cell carcinoma was thought most likely.

Discussion:

Background: Bladder wall chondromas are rare entities, with 5 cases reported in the medical literature to date. Chondromas are cartilaginous lesions of mesenchymal origin demonstrating slow growth. They have no potential for malignant transformation.[1]

Extraskelatal presentation of chondromas:

Background: Extraskelatal chondromas occur in 3 variants: (a) as nodules of synovial chondromatosis, (b) as a solitary lesion in association with articulations (c) an isolated cartilagenous lesion in the soft tissues. [2] Types b and c histologically exhibit characteristics which often cause unnecessary worry to the pathologist, with features suggestive of chondrosarcoma, however, the diagnosis is usually refined to that of extra skeletal chondroma. Metastasis are exceedingly rare.

Clinical perspective: Extraskelatal chondromas are exceedingly rare, affecting the sexes equally in between the ages of 40-70 years. [3] Classically, bladder wall chondromas present with abdominal pain, but, can have overlapping lower urinary tract symptoms and dysuria. The main differential diagnosis that must be excluded is transitional cell carcinoma and chondrosarcoma. Transitional cell carcinoma is difficult to differentiate from
chondroma sonographically and usually requires additional imaging. The presence of bladder wall muscular invasion is suggestive, but, not confirmatory of transitional cell carcinoma/chondrosarcoma as is increased vascularity. Histological diagnosis is the mainstay in terms of differentiation between bladder lesions.

Imaging perspective: As discussed previously imaging findings in bladder wall chondromas tends to be suggestive of an exophytic bladder wall mass with roughly homogenous echogeneity with no areas of cystic degeneration/liquid. Imaging findings are indistinguishable from bladder wall TCC and cystoscopic investigation is necessary to diagnose with certainty.

Outcome: The natural history of untreated bladder wall chondromas is poorly understood due to paucity of literature on the subject. However, patients presenting with obstructive lower urinary tract symptoms with a putative bladder wall chondroma should be considered for at least partial surgical resection. In this patients case resection was abandoned during due to proximity to the limit of the bladder wall. The patient represented with dysuria approximately 1 week post-operatively and was admitted for antibiotic treatment of putative cystitis (figure 1b). Figure 1c demonstrates stable appearances of residual chondroma post-operatively.

Teaching points: Bladder chondromas are a vanishingly rare cause of lower urinary tract symptoms, obstructive uropathy and bladder mass lesions. The are radiologically seen as exophytic bladder wall mass lesions with a homogenous echogenicity with poor vascularity. Bladder chondroma must considered as a rare differential diagnosis for transitional cell carcinoma/urothelial carcinoma of the bladder.

**Differential Diagnosis List:** Bladder wall chondroma, Transitional cell carcinoma, Urethrocele, Chondrosarcoma

**Final Diagnosis:** Bladder wall chondroma

**References:**

Description: Ultrasound of bladder demonstrating a 15mm right bladder base mass lesion, with intimate relation to the right vesicoureteral junction (VUJ). No overt fluid content or vascularity is identified within the mass. Origin: Department of Sonography, Department of Radiology, Royal Perth Hospital, WA 6000
Description: US of the abdomen demonstrating abnormal bladder wall contrast enhancement consistent with a diagnosis of post operative cystitis. Origin: Department of Computed Tomography/Cross sectional imaging, Department of Diagnostic Radiology, Royal Perth Hospital, Perth WA 6000
Description: Post-operative ultrasound demonstrating stable appearance of residual linear echogenic focus extending into the bladder neck representing known bladder chondroma focus. Origin: Department of Sonography, Department of Diagnostic Radiology, Royal Perth Hospital, Perth, WA 6000