ORIGINAL RESEARCH PAPER
Volume - 12 | Issue - 03 | March - 2023 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

A RARE CASE OF A VESICOURACHAL DIVERTICULUM AND ITS LAPAROSCOPIC MANAGEMENT

General Surgery

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ABSTRACT

The urachus connects the dome of the bladder to the umbilical cord in fetal life. In normal conditions, urachus involutes before birth and remains as a connective tissue band known as median umbilical ligament. in urachal remnant disorders in which all or a portion of the urachus is found and these disorders are defined as patent urachus (50%), umbilical urachal sinus (15%), vesicourachal diverticulum (5%), and urachal cyst (30%).

KEYWORDS

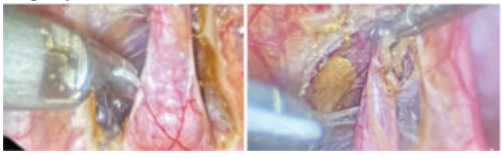
urachal diverticulum ,Multidetector Computed Tomography, Urachus, Urinary Bladder Diseases

CASE STUDY

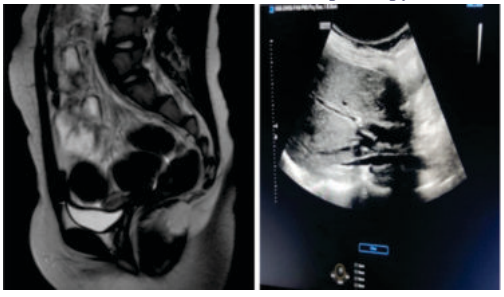
An 10 year-old female presented with chronic dull aching lower abdominal pain over supra public region since 1 year with multiple episodes of burning micturition since 6 months. Physical examination revealed mild deep tenderness in the suprapubic area without any palpable organomegaly or lump.Laboratory results were non significant with WBC within normal limits. Urinalysis was positive for WBCs and urine culture showed E.coli presence. patient was started on empiric antibiotics for a urinary tract infection.

An ultrasound of the abdomen was performed for further evaluation , which demonstrated a well circumscribed hypoechoic lesion immediately superior to the bladder. Internal Doppler flow was detected, and the lesion appeared to be opening into the urinary bladder dome, most likely patent urachus near bladder. CT Imaging was performed ,Findings suggested A thickened cord like structure of size 31 x 7 mm is noted near dome of urinary bladder. Plo urachal diverticulum. Patient was given antibiotic trial for one week ,after which laparoscopic excision of urachal cyst was considered.

A 5 mm laparoscope was inserted 3 cm superior to umbilicus in midline, with working trocars in the left and right upper lumber region in mid clavicle line. The working ports were 3 mm trocars. The urachal diverticulum was dissected from surrounding tissue, urachal remnant was ligated and urachus with diverticulum was excised using electrocautery. So there was rent over superior part of bladder, which was closed using double layer vicryl suturing.18 Fr drain placed in pelvis. The specimen was exteriorized via the infraumbilical Pfannenstiel incision. Abdominal wall is closed layer ,14 Fr Catheter left in situ. Liquid orally started on post op day one,patient discharged on post op day 3 after removal of drain.



Urachal Diverticulum As Visualized In Laproscopy



Ct And Usg Suggesting Urachal Remnant With Connection With Bladder Dome

DISCUSSION

During the 4th week of embryogenesis, the urogenital septum separates the cloaca into the rectum posteriorly and the urogenital sinus anteriorly. The urogenital sinus continues to develop into the urethra and urinary bladder. In normal conditions, urachus involutes before birth and remains as a connective tissue band known as median umbilical ligament.(2) Urachal remnants have a prevalence of approximately 1/5000 and are often an incidental finding on cross-sectional imaging. Urachal remnants can be classified into 4 categories: patent urachus, umbilical-urachal sinus, urachal cyst, and vesicourethral diverticulum. (1)A patent urachus is when there is a persistent connection between the umbilicus and urinary bladder that leads to leakage of urine from the umbilicus and is often associated with posterior urethra valves. The umbilical-urachal sinus describes an blind outpouching extending from the umbilicus but without connection to the urinary bladder. Urachal cyst occurs when the proximal and distal ends of the urachus involute but the middle persists. The vesicourethral diverticulum is similar in concept to the umbilical urachal sinus; however there is a blind ending urachus with an opening to the urinary bladder as opposed to the umbilicus. This is the rarest form of a urachal remnant anomaly.

As mentioned above, the urachal anomalies are often diagnosed incidentally. US has been shown to have a diagnostic accuracy of 90%. US findings include identification of a midline tubular structure with hypoechoic walls and anechoic content. Further imaging modalities help confirm the US findings and can better demonstrate the extent of the anomaly.

In most cases are asymptomatic, but when presented with recurrent urinary tract infection or stones formation it requires operative intervention. It can be done either by open or by laparoscopic approach. (3)

CONCLUSION

Vesicourachal diverticulum is one of rarest presentation. Most patient are asymptomatic but if there is urinary stone formation or recurrent infection surgical management may require.

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