

Educational Review - The Space of Retzius: Anatomy, Imaging Features, and Patterns of Disease Spread

ELECTRONIC SUPPLEMENTARY MATERIAL

Supplementary material 1: Axial (A) and sagittal (B) T2-weighted MR images demonstrate the space of Retzius in a 40-year-old male patient (arrows). (C) Sagittal T2-weighted MR image shows the space of Retzius in a 38-year-old female patient (arrows). Anatomical illustrations depict the space of Retzius (pink) and the urachus (purple) in male (D) and female (E) patients.

Supplementary material 2: Female pelvis superior view (peritoneum and loose areolar tissue removed). A: External iliac vessels, B: Round ligament, C: Inferior epigastric vessels, D: Pubic branches, E: Medial umbilical ligament, F: Median umbilical ligament, G: Rectus abdominis muscle, H: Pubic symphysis, I: Linea terminalis of pelvis, J: Inferior (arcuate) pubic ligament, K: Umbilicovesical fascia, L: Pubourethral ligament, M: Vesicocervical fascia, N: Obturator artery, O: Obturator canal, P: Transverse perineal ligament, Q: Deep dorsal vein of clitoris, R: Urinary bladder, S: Lateral pubovesical ligament, T: Vesicovaginal space, U: Transversalis fascia.

Supplementary material 3: Anatomical illustrations demonstrate various types of urachal anomalies. (A) Patent urachus, (B) Urachal cyst, (C) Umbilical–urachal sinus, (D) Vesico-urachal diverticulum.

Supplementary material 4: Sagittal (A) and axial (B) CT images show an umbilical–urachal sinus with internal calcification (arrows) in a 50-year-old male patient presenting with a long-standing history of umbilical discharge.

Supplementary material 5: Invasion of the space of Retzius by vulvar carcinoma. Axial (A) and sagittal (B) T2-weighted MR images show a heterogeneous mass extending into the space of Retzius (arrows).

Supplementary material 6: Local recurrence of bladder cancer in the space of Retzius in a patient previously treated with total cystectomy. Axial (A) and sagittal (B) post-contrast CT images demonstrate a solid mass with central necrosis in the space of Retzius (white arrows). Note the destruction of the adjacent pubic symphysis by the neoplastic mass (black arrows in A).

Supplementary material 7: Biopsy-proven recurrent endometrial carcinoma in the space of Retzius. Sagittal post-contrast T1-weighted subtraction image (A), axial (B) and sagittal (C) T2-weighted MR images show a heterogeneous mass with central necrosis (arrows).

Supplementary material 8: Histopathologically confirmed leiomyosarcoma implants in the space of Retzius (original tumor in the uterus was previously treated with surgery and radiotherapy). Sagittal T2-weighted (A), axial and sagittal T1-weighted (B, C), axial high b-value diffusion-weighted (D) MR images show heterogeneously enhancing lobulated solid masses with diffusion restriction (white arrowheads) in the space of Retzius. Additional masses are also noted in the presacral and left mesorectal regions (black arrows in A and B)

Supplementary material 9: Disseminated peritoneal leiomyomatosis involving the space of Retzius in a patient with a prior history of hysterectomy for multiple uterine leiomyomas. Axial contrast-enhanced CT image (A) demonstrates multiple nodular soft-tissue masses in the space of Retzius (arrows). Sagittal T2-weighted (B), axial pre-contrast (C), and post-contrast T1-weighted (D) MR images show homogeneously enhancing, T2-hypointense nodular soft-tissue masses in the space of Retzius (arrows). Postsurgical histopathologic examination confirmed multiple foci of leiomyoma.

Supplementary material 10: Residual venolymphatic malformation in the space of Retzius in a patient previously treated with extensive surgery. Sagittal T2-weighted (A) and axial pre- and post-contrast T1-weighted (B and C, respectively) MR images demonstrate a lobulated, T2-hyperintense mass in the space of Retzius (arrows) showing homogeneous enhancement. A sagittal T2-weighted MR image of the right adnexa (D) reveals another lobulated lesion with similar imaging characteristics

(arrow). The findings are consistent with venolymphatic malformation. Follow-up imaging confirmed long-term stability of the lesions.

Supplementary material 11: Hematoma in the space of Retzius following small-bowel tumor resection. Axial contrast-enhanced CT image (A) demonstrates a collection with heterogeneous internal attenuation in the space of Retzius extending toward the right paravesical space (arrows). Axial T1-weighted (B) and axial and sagittal T2-weighted (C, D) MR images obtained 2 weeks later show a decrease in the size of the hematoma with central cavitation (arrows).

Supplementary material 12: Sagittal T2-weighted MR image demonstrates a fistulous tract originating from the bladder lumen and extending into the space of Retzius (arrows) in a patient previously treated with total abdominal hysterectomy and bilateral salpingo-oophorectomy for endometrial carcinoma.

Supplementary material 13: Sagittal T2-weighted (A) and post-contrast T1-weighted MR images demonstrate retropubic sling material (arrows). An anatomical illustration shows the location of the retropubic sling (green).

Supplementary material 14. Burch colposuspension suture placement.