Appendix 1. Video cases 1–6. View as slide show to access animated images.

Video case 1: Agreement of rectocele on all imaging techniques.
A. Evacuation proctography shows a rectocele during straining and evacuation of the contrast.
B. Magnetic resonance imaging, T2-weighted sagittal images of the pelvis show a rectocele. The rectum is filled with hyperintense (bright) ultrasound gel for better differentiation of the rectum. The most anterior part of the rectocele seen as black, represents accumulated gas due to supine position of the patient during the scan.
C. Transperineal ultrasonography performed with a convex transducer (Type 8802, 3.5–6.0 MHz, BK Medical) held against the perineum. In the midsagittal plane the pelvic structures are presented from left to right: anorectum, vagina, urethra and urinary bladder, pubic symphysis. A rectocele develops from the anterior rectum during the Valsalva maneuver.
D. Endovaginal ultrasonography performed with a biplane linear high-frequency transducer (type 8838, BK Medical, 6–12 MHz) placed inside the vagina. In the midsagittal plane the anatomy of the posterior pelvic floor is presented: the anorectum, levator ani muscle, perineal body and rectovaginal septum. A rectocele develops during the Valsalva maneuver.

Video case 2: Agreement of enterocele on all techniques.

A. Evacuation proctography shows satisfactory emptying of the rectum. Enterocele and full thickness circumferential intussusception are noted.

B. Magnetic resonance imaging, T2-weighted sagittal images of the pelvis show a rectocele during first attempt to evacuate. At second attempt a full thickness intussusception and grade 3 enterocele are visible. The rectum is filled with hyperintense (bright) ultrasound gel for better differentiation of the rectum. The most anterior part of the rectocele seen as black, represents accumulated gas due to supine position of the patient during the scan.

C. Transperineal ultrasonography performed with a convex transducer (Type 8802, 3.5–6.0 MHz, BK Medical) held against the perineum. In the midsagittal plane the pelvic structures are presented from left to right: anorectum, vagina, urethra and urinary bladder, pubic symphysis. An enterocele develops between rectum and vagina during the Valsalva maneuver.

D. Endovaginal ultrasonography performed with a biplane linear high-frequency transducer (type 8838, BK Medical, 6–12 MHz) placed inside the vagina. In the midsagittal plane the anatomy of the posterior compartment is presented: the anorectum, levator ani muscle, perineal body, and rectovaginal septum. An enterocele develops between the rectum and vagina during the Valsalva maneuver.

Video case 3: Agreement of intussusception on all imaging techniques.

A. On evacuation proctography the anorectal contour appears normal at rest. There is elevation of perineum on contraction and during straining significant descent of the anorectum is shown. The contrast empties virtually completely from the rectum. There is a full thickness circumferential intrarectal intussusception noted. There is no rectocele and no enterocele.

B. Magnetic resonance imaging, T2-weighted sagittal images of the pelvis show elevation of perineum on contraction. During straining there is small cystocele, cervical descent, and descent of anorectum. Contrast is seen evaluating from the rectum and on the later images a full thickness circumferential intrarectal intussusception is visible (arrow). There is no rectocele and no enterocele.

C. Transperineal ultrasonography performed with a convex transducer (Type 8802, 3.5–6.0 MHz, BK Medical) held against the perineum. In the midsagittal plane the pelvic structures are presented from left to right: levator ani muscle, anorectum, vagina, urethra, and urinary bladder. At Valsalva a cystocele is noted and widening of the rectum with a full thickness circumferential intrarectal intussusception visible as intraluminal shadows. There is no rectocele and no enterocele.

D. Endovaginal ultrasonography performed with a biplane linear high-frequency transducer (type 8838, BK Medical, 6–12 MHz) placed inside the vagina. In the midsagittal plane the anatomy of the posterior pelvic floor is presented: the levator ani muscle, anorectum, perineal body and rectovaginal septum. At Valsalva a full thickness circumferential intrarectal intussusception develops and cervical descent is noticed. There is no rectocele and no enterocele.

Video case 4: Agreement of anismus on all imaging techniques.

A. On evacuation proctography the rectum lies horizontally on image taken at rest. The elevation of perineum is visible during contraction. During straining, no perineal descent is seen and no opening of the anal is noted. There is paradoxical contraction of the puborectalis muscle during straining. The appearances in keeping with anismus.

B. Magnetic resonance imaging, T2-weighted sagittal images of the pelvis show some elevation of perineum on contraction. No significant perineal descent is noted during straining and no evacuation of contrast is shown. There is persistent reflection of the puboractalis muscle on the posterior rectal wall, which is suggestive of animus.

C. Transperineal ultrasonography performed with a convex transducer (Type 8802, 3.5–6.0 MHz, BK Medical) held against the perineum. In the midsagittal plane the pelvic structures are presented from left to right: levator ani muscle, anorectum, vagina, urethra, and urinary bladder. A paradoxical contraction of the levator ani muscle is visible while the patient is performing the Valsalva maneuver.

D. Endovaginal ultrasonography performed with a biplane linear high-frequency transducer (type 8838, BK Medical, 6–12 MHz) placed inside the vagina. In the midsagittal plane the anatomy of the posterior pelvic floor is presented: the levator ani muscle, anorectum, perineal body, and rectovaginal septum. A paradoxical contraction of the levator ani muscle is visible while the patients is performing the Valsalva maneuver.

Video case 5: Intussusception missed on magnetic resonance imaging and transperineal ultrasonography. Enterocele missed on magnetic resonance imaging.

A. Evacuation proctography presents a rectocele, full thickness circumferential intussusception and enterocele at the end of evacuation.

B. Magnetic resonance imaging, T2-weighted sagittal images of the pelvis show a rectocele. No intussusception is visible. There is no enterocele, which is most likely due to the presence of rectocele preventing the enterocele to develop.

C. Transperineal ultrasonography performed with a convex transducer (Type 8802, 3.5–6.0 MHz, BK Medical). Sagittal images during valsalva manoeuvre show pelvic structures as follows (from left to right): anorectum, vagina, urinary bladder and urethra, pubic symphysis. A rectocele is seen. An enterocele is clearly visualized as bowel loops descending between the rectal wall and vagina.

D. Endovaginal ultrasonography performed a with biplane linear high-frequency transducer (type 8838, BK Medical, 6–12 MHz) placed inside the vagina. In the midsagittal plane the anatomy of the posterior compartment is presented: the anorectum, levator ani muscle, perineal body, and rectovaginal septum. No rectocele is seen. A full-thickness circumferential intussusception and enterocele are clearly visualized.

Video case 6: Intussusception and enterocele missed on ultrasound.

A. Evacuation proctography shows satisfactory emptying of the contrast. At early evacuation, a rectocele is seen with some indentation superiorly which is highly suggestive of uterine prolapse. At the end of the evacuation a full thickness circumferential intussusception and an enterocele are presented.

B. Magnetic resonance imaging (MRI), T2-weighted sagittal images of the pelvis show multicompartment prolapse: cystocele, uterine prolapse, rectocele, small enterocele, and intussusception. The rectum is filled with hyperintense (bright) ultrasound gel for better differentiation of the rectum. The most anterior part of the rectocele seen as black, represents accumulated gas due to supine position of the patient during scan.

C. Transperineal ultrasonography performed with a convex transducer (Type 8802, 3.5–6.0 MHz, BK Medical). Sagittal images during valsalva maneuver show pelvic structures as follows (from left to right): anorectum, vagina, urinary bladder and urethra, pubic symphysis. No significant abnormalities are noted. The pathology seen on evacuation proctography and MRI is most likely missed by the lack of an evacuation phase on ultrasound.

D. Endovaginal ultrasonography performed with a biplane linear high-frequency transducer (type 8838, BK Medical, 6–12 MHz) placed inside the vagina. In the midsagittal plane the anatomy of the posterior compartment is presented: the anorectum, levator ani muscle, perineal body, and rectovaginal septum. No significant abnormalities are noted. The pathology seen on evacuation proctography and MRI is most likely missed by the lack of an evacuation phase on ultrasound.