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Magnetic Resonance Imaging Evaluation of Müllerian Duct Anomalies According to the New ASRM 2021 Classification

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Abstract

Background: Mullerian duct anomalies (MDAs) are common and affect the reproductive health of women. They have a prevalence of 5.5% to 7.0% in the general population, up to 13.0% in women with a history of miscarriage, and up to 24.5% in women with a history of both infertility and miscarriage Müllerian anomalies might involve agenesis, dysplasia, non-fusion or abnormal septation of the fallopian tubes, uterus, cervix or upper vagina in any combination. Additionally, cervical or vaginal atresia or septation can occur with or without associated uterine abnormalities. MRI is best for delineating the morphology and orientation of pelvic structures. Though it is noninvasive and radiation-free, it has limited availability and high cost, it is contraindicated in patients with cardiac pacemakers and cochlear implants.

Aim: The aim of the study is improving delineation, diagnosis and classification of Müllerian duct anomalies using magnetic resonance imaging with its multi-planar reformatting according to the new ASRM classification.

Conclusion: MRI is a highly accurate, reproducible, and non-invasive imaging modality for the assessment of Müllerian duct anomalies. The updated ASRM 2021 classification system provides a practical and comprehensive framework for categorizing a broad spectrum of anomalies. Therefore, MRI should be considered the imaging modality of choice for the diagnosis and classification of Müllerian duct anomalies and for guiding appropriate clinical and reproductive management.

Keywords: Müllerian duct anomalies; Magnetic resonance imaging; ASRM 2021 classification; Multiplanar reformatting; Uterine anomalies.

Introduction

The Müllerian duct (MD) is the embryonic structure that develops into the female reproductive tract (FRT), including the oviduct, uterus, cervix and upper vagina. The FRT has essential functions in mammals, providing the site of fertilization, embryo implantation and fetal development. Defects in human FRT formation, thought to arise from abnormal embryonic development, are estimated to occur in up to 3% of births and often result in fertility problems(Choo et al., 2014).

The prevalence of Müllerian duct anomalies (MDA) in the general population has been previously estimated to be ∼1%. However, a more recent critical review of the existing data, taking into account the varying methods used for diagnosis, the changes in imaging methods over time, and the inconsistencies in the subjective classification of cases, demonstrates a prevalence of nearly 7% in the general population. These are estimates, as large studies have not been performed on a general population, and studies in the literature reflect a selection bias toward women with infertility. When women with recurrent pregnancy loss are studied, the incidence of MDA is even greater, with the incidence approaching 17% (Jorgensen & Lusiak, 2021).

In women presenting with infertility, and also those with recurrent pregnancy loss, assessment of the uterine anatomy is a priority and can be done with ultrasonography (US), magnetic resonance imaging (MRI), or a combination of both. Clinically, MRI is considered the gold standard in the depiction of uterine abnormalities and is used to guide future clinical management of the patient by distinguishing surgically correctable forms from inoperable forms(Busnelli et al., 2024).

MRI can assess other abnormalities in the female reproductive tract, such as leiomyomas and adenomyosis, as well as determine if there are associated anomalies of the genitourinary tract, such as unilateral renal agenesis(Dahiphale et al., 2024).

MRI is considered the gold standard imaging modality for evaluating Müllerian anomalies, thanks to its exceptional soft-tissue contrast and multiplanar capabilities. T2-weighted sequences allow clear delineation of both internal uterine anatomy and external fundal contour, which are essential for accurate classification and treatment planning. It simultaneously evaluates associated ovarian, adnexal, or renal anomalies in the same scan(Rogers, 2021).

Müllerian Duct Development

The Müllerian duct (MD) is the embryonic structure that develops into the female reproductive tract (FRT), including the oviduct, uterus, cervix and upper vagina. The FRT has essential functions in mammals, providing the site of fertilization, embryo implantation and fetal development.

The reproductive tract of males and females initially contain identical pairs of fully formed Wolffian ducts (WDs) and Mullerian ducts (MDs). During male sex differentiation, signaling between MD mesenchyme and epithelium mediate MD regression and prevent its development into a FRT(Tang et al., 2025).

The urogenital system originates from the intermediate mesoderm and consists of the kidneys, gonads, and urinary and reproductive tracts. Differentiation of the intermediate mesoderm into the urogenital tract begins shortly after gastrulation.

In the early embryo, both mesonephric (Wolffian) and paramesonephric (Müllerian) ducts are present.After sex determination, hormones produced in the fetal testis, anti-Müllerian hormone (AMH), testosterone, and insulin-like 3 (Insl3) trigger regression of the MD, differentiation of the WD into the male genital tract, consisting of the vas deferentia, epididymides, and seminal vesicles, and testicular descent, respectively. In females, lack of Müllerian-inhibiting hormone from the male gonad, the mesonephric duct regresses and the paramesonephric ducts develops and permits differentiation of the MD into the female reproductive tract, consisting of the oviducts, uterus and upper vagina (Das et al., 2023).There are three distinct stages of Müllerian duct development which have been described (Wilson & Bordoni, 2026).

During the first stage of development, the superior aspect of each Müllerian duct develops into the left and right fallopian tubes, while the more caudal portions of each duct develop into the left and right uterus, cervix, and upper 2/3 of the vagina. The lower 1/3 of the vagina develops from the urogenital sinus and the ovaries develop from the gonadal ridge, independent of the Müllerian ducts.

During the second stage there is midline fusion of the separate left and right uterus, cervix, and upper vagina.

During the third stage of development, there is resorption of the midline fused segments in the uterus, cervix, and upper vagina, resulting in a single upper, mid, and lower uterine cavity, and single cervical and vaginal canals. The resorption can begin at any level and be incomplete. By the end of the first trimester, development of the Müllerian duct system is complete(Lin et al., 2025).

Classification of Müllerian Duct Anomalies

The first widely adopted classification for Müllerian Duct Anomalies (MDA) was proposed by Buttram and Gibbons in 1979. It was later refined by the American Fertility Society (AFS) in 1988—now known as the American Society for Reproductive Medicine (ASRM). This system expanded the categories to seven classes, including one for DES-related anomalies. Despite limitations—such as inadequate categorization of complex or obstructive vaginal/cervical anomalies—the AFS classification remains the most commonly used due to its clarity and clinical utility. (Ameh et al., 2020)

AFS Classification

The AFS system categorizes MDA as follows: (Narbutas et al., 2023)

Class I (Aplasia/Hypoplasia): Absent or underdeveloped uterus.

Class II (Unicornuate): One functional uterine horn; may have a non-communicating rudimentary horn.

Class III (Didelphys): Two fully developed uterine horns and cervices; vaginal septum in 75%.

Class IV (Bicornuate): Partial fusion; significant fundal cleft (>1 cm); may have one or two cervices.

Class V (Septate): Normal outer contour; septum dividing the uterine cavity; variable completeness.

Class VI (Arcuate): Mild indentation into the uterine cavity; normal fundal contour.

Class VII (DES-related): T-shaped uterine cavity due to in-utero diethylstilbestrol exposure.

Embryological Basis of Classification

The AFS classification maps to the three stages of Müllerian duct development: (Al Najar et al., 2022)

Underdevelopment (Stage 1 failure):

Leads to Class I and II anomalies.

Complete arrest results in agenesis or hypoplasia (Class I).

Unilateral arrest causes a unicornuate uterus, with or without a rudimentary horn (Class II), which may cause pain or risk of rupture if it contains endometrium.

Nonfusion (Stage 2 failure):

Leads to Class III and IV anomalies.

Failure of midline fusion results in didelphys (complete failure) or bicornuate uterus (partial failure).

Key distinction is based on how much of the uterus fails to fuse, not merely the presence of duplicate structures.

Nonresorption (Stage 3 failure):

Leads to Class V and VI anomalies.

Failure of septum resorption causes a septate uterus (Class V), while partial failure results in an arcuate uterus (Class VI).

These anomalies have normal outer contours, distinguishing them from nonfusion anomalies.

DES-Related Anomalies (Class VII)

Class VII includes uterine anomalies due to in-utero exposure to diethylstilbestrol (DES), a synthetic estrogen used between 1938 and 1971. These women may exhibit a T-shaped uterine cavity, hypoplastic reproductive organs, or intrauterine adhesions. Although DES use has declined, rare cases still occur due to international or off-label use. (Fillion & Torny, 2022)

American Society for Reproductive Medicine Classification System of Müllerian Duct Anomalies

The modern and widely used classification scheme developed by the American Fertility Society divides congenital anomalies into 7 discrete classes; associated vaginal or cervical abnormalities are reported as subsets of the major classes. Although many cases can be placed into a single category, it is possible for individual cases to overlap classes or fall along a spectrum of classical disease. Disorders of agenesis and hypoplasia form the basis for class I anomalies, usually resulting from failure of mullerian duct development before potential fusion. Class I anomalies account for approximately 5% to 10% of all mullerian fusion anomalies. Classically, complete bilateral agenesis of the entire uterus and upper vagina is termed Mayer-Rokitansky-Ku¨ster-Hauser syndrome. (Csöbönyeiová et al., 2022)

In 10% of such cases, isolated vaginal agenesis may be present with a rudimentary or obstructed uterine remnant in place. Clinically, these patients present with normal female phenotype but demonstrate primary amenorrhea. MRI demonstrates normal female gonads/ovaries but agenesis of the uterus and upper vagina.

Class II anomalies result from failure of a single mullerian duct to develop normally, causing an asymmetry of the mature uterus called a unicornuate uterus. (Passos & Britto, 2020)

This accounts for approximately 20% of all mullerian fusion anomalies. There are 3 general subtypes, occurring in approximately similar frequencies, including an isolated single horn, a rudimentary second horn without functional endometrium, and a rudimentary second horn containing an endometrial segment. In the latter situation, the endometrial tissue/cavity may or may not communicate with the endometrial space in the normal horn on the contralateral side—noncommunication is more common than communication by approximately a 2:1 ratio. (Acién & Acién, 2022)

Uni cornuate uterus can be clinically occult, but the presence of a noncommunicating rudimentary horn is often associated with dysmenorrhea and hematometra. Surgery is often indicated for rudimentary horns that have associated endometrial tissue, regardless of whether or not they communicate, due to potential pregnancy issues and symptomatic relief, respectively. On MRI, unicornuate uterus has a curvilinear shape resembling a banana with normal zonal differentiation in the mature horn. (Junqueira et al., 2009)

The presence of a rudimentary horn should be noted, though the zonal anatomy may be absent if there is no functional endometrial tissue.

Class III and IV anomalies represent fusion defects between the paired mullerian ducts, including incomplete midline fusion (class III, bicornuate uterus) and near total failure of midline fusion (class IV, uterus didelphys). Together, these account for approximately 15% of all Mullerian fusion anomalies, with bicornuate uterus more common than uterus didelphys by approximately a 2:1 ratio. A bicornuate uterus has cephalad separation of the uterine horns, with some midline fusion seen along the caudal margin of the uterine body or lower uterine segment. Duplication of the cervix is variable in bicornuate uterus, offering both single (unicollis) and double (bicollis) cervix subtypes. Uterus didelphys has 2 widely splayed uterine horns with almost no observed midline fusion extending through the lower uterine segment; duplicated cervices are present. (Behr, et al., 2012)

On MRI, both entities are characterized by a split uterine horns that demonstrate zonal uterine anatomy. The key feature is a deep concavity of the expected uterine fundus, with a cleft of at least 1 cm diagnostic. Because of the multiplanar nature of MRI, this determination is straightforward on oblique imaging obtained along the uterine long axis. Once the fundal cleft is established, attention is turned to degree of midline fusion, either partial or near absent, to differentiate between bicornuate uterus and uterus didelphys. Presence of 2 cervices cannot be relied on for differentiation because it is present in both bicornuate uterus bicollis subtype and uterus didelphys (Dixit et al., 2025).

Accounting for approximately 55% of all mullerian fusion anomalies, the septate uterus (class V) is the most common uterine anomaly. The developmental defect associated with septate uterus occurs after midline fusion, during the septal resorption phase, including both partial and total failure of septal resorption. The resultant longitudinal septum extends caudally from the uterine fundus and is termed complete if it extends to the external cervical os; approximately 25% of patients have septal extension into the upper vagina. Because of differences in treatment for patients with septate uterus versus those with bicornuate or didelphys configurations, differentiating these entities is critical. On MRI, a septate uterus shows a normal configuration, either convex outward, flat, or minimally concave with a fundal cleft/depth of less than 1 cm on long-axis imaging. (**Behr** et al., 2012)

The signal intensity of the septum is important, because muscular septa demonstrate similar characteristics to back ground myometrium, whereas fibrous septa are generally thinner with dark signal on T2-weighted images. The final 2 classes of mullerian fusion anomalies are unique.

Class VI refers to an arcuate configuration, which some authors consider a normal variant rather than a mu¨llerian fusion anomaly. (**Behr** et al., 2012)

On MRI, an arcuate configuration has a broad-based shallow bulge of the inner fundal myometrial contour, with a normal outer fundal contour.

Class VII is a specific uterine configuration related to in utero exposure to diethylstilbestrol (DES), a syn thetic estrogen that was thought to decrease the rate of pregnancy loss in patients with prior spontaneous abortions or premature deliveries. In utero DES exposure was shown to interfere with embryologic genital tract development, causing resultant structural abnormalities in the term fetus, and was discontinued in 1971. (Gonsioroski et al., 2020)

Classically, the anomaly linked to prior DES exposure was a hypo plastic uterus with a T-shaped configuration of the endometrial cavity. Several other anomalies of the cervix and fallopian tubes have also been reported. Both physiologic events and acquired defects can alter the apparent uterine anatomy. Functional myometrial contractions occur in the junctional zone and can distort the endometrium but generally do not affect the myometrium. Although commonly seen in gravid uterus, they can be present in the nongravid uterus as well. (Anusha, 2020)

Comparison Between Different Classification Systems

1. AFS / Original ASRM Classification System (1988)

The American Fertility Society (AFS) classification, later adopted by the American Society for Reproductive Medicine (ASRM), was the first standardized system for categorizing Müllerian duct anomalies (MDA). It divides anomalies into seven major categories based on the type and timing of embryologic developmental failure: agenesis/hypoplasia, unicornuate, didelphys, bicornuate, septate, arcuate, and anomalies related to in-utero exposure to diethylstilbestrol (DES). This system is simple, clinically intuitive, and has long been favored by gynecologists and radiologists alike due to its ease of use and correlation with treatment pathways. (**American Fertility Society. 1988**)

However, the AFS system has significant limitations. It primarily focuses on the uterus and does not adequately classify anomalies involving the cervix and vagina or more complex cases that involve multiple structural defects. Additionally, it lacks precise criteria for distinguishing between subtypes, leading to subjectivity in diagnosis (Dahiphale et al., 2024).

2. ESHRE–ESGE Classification System (2013)

The European Society of Human Reproduction and Embryology (ESHRE) and the European Society for Gynaecological Endoscopy (ESGE) developed a more comprehensive system in 2013. This classification utilizes objective morphometric criteria, dividing the female reproductive tract into three independently classified segments: uterus (U0–U6), cervix (C0–C4), and vagina (V0–V4). This separation allows for detailed documentation of anomalies, especially complex or obstructive forms that involve more than one region(Rodolakis et al., 2022).

One of the key advantages of the ESHRE–ESGE system is its ability to classify a wider range of anomalies, including rare and mixed types that the AFS system could not adequately capture. However, it has been criticized for its tendency to overdiagnose septate uterus due to its lower threshold for indentation depth and angle. Comparative studies have shown that the ESHRE–ESGE system diagnoses septate uterus at significantly higher rates than the ASRM system, raising concerns about overtreatment and unnecessary surgical interventions(Navarro et al., 2024).

3. Revised ASRM Classification System (2021)

To address the limitations of both the original AFS and the ESHRE–ESGE systems, the ASRM released an updated classification in 2021. This system retains the familiar structure of the 1988 version but includes clearer definitions, refined diagnostic criteria (especially for arcuate vs. septate uterus), and expands the scope to include anomalies of the cervix and vagina(Ueno et al., 2025).

The ASRM 2021 system serves as a middle ground between simplicity and anatomical accuracy. It avoids the pitfalls of overdiagnosis associated with the ESHRE–ESGE system while enhancing diagnostic clarity for anomalies that were poorly defined in the original ASRM system. It also places greater emphasis on clinical significance, guiding appropriate management strategies based on more precise classification(Ghayda et al., 2024).

The AFS/ASRM (1988) classification is well established and easy to use but lacks coverage for complex or combined anomalies. The ESHRE–ESGE system is anatomically detailed and versatile, yet tends to overclassify septate uterus due to strict morphometric criteria. The revised ASRM 2021 system integrates the best aspects of both—maintaining the user-friendly layout of the original while broadening classification to cervicovaginal anomalies and offering clearer definitions to support accurate diagnosis and clinical decision-making(Pfeifer et al., 2021).

MRI Techniques of Examination

Magnetic resonance (MR) imaging is a valuable technique for the non-invasive evaluation of the female pelvic region .

The multiplanar capabilities and excellent soft-tissue contrast on magnetic resonance imaging (MRI) of the pelvis provide superdepiction of the female pelvic anatomy and often lead to specific diagnosis without ionizing radiation. MRI is often used as a problem-solving tool in patients where ultrasound is inconclusive or suboptimal. The development of new, faster imaging sequences with parallel imaging has enabled acquisition of images of dynamic evaluation of the entire female pelvic floor.

In preparation for imaging, the patient must fast for at least 4 hours and refrain from voiding for 1 hour before the examination to correct the angle of uterine anteversion and displace the small bowel cephalad. Bowel cleansing is routinely performed by the patient with two doses of an oral laxative (5 mg bisacodyl per dose), one at 8:00 am and the other at 2:00 pm the day before imaging. The patient also is instructed to follow a low-residue dietary regimen on the day before and the day of the MR imaging examination.

Just before MR imaging, 10 mg butylescopolamine (Buscopan) is injected intravenously to reduce bowel peristalsis, and 60 mL of gel is infused into the vagina to distend the fornix. The average duration of the MR image acquisition is 25 minutes.

Positioning and MRI Protocol

-Position the patient in supine position with head pointing towards the magnet (head first supine)

-Position the patient over the spine coil and place the body coils over abdomen and pelvis

-Securely tighten the body coil using straps to prevent respiratory artifacts

-Give a pillow under the head and cushions under the legs for extra comfort .

A three plane localizer must be taken in the beginning to localize and plan the sequences .Localizers are normally less than 25sec.

MR imaging protocol includes the acquisition of T2-weighted fast spin-echo images (repetition time msec/echo time [effective] msec 3,000–5,000/80–120, echo train length of eight to 16, two signals acquired) were obtained in the sagittal and axial planes. T2-weighted images provide the most detailed information about the uterine zonal anatomy. Images obtained in the coronal or perpendicular planes relative to the long uterine axis may be useful adjuncts for assessment of the uterine cavity.

Slice gap is one mm and flip angle 90° in all sequences

MRI Evaluation of Müllerian Duct Anomalies

MRI is the preferred imaging modality for evaluating MDA, with T2-weighted sequences offering excellent contrast to depict Müllerian anatomy. Intravenous contrast is not needed, though vaginal gel can

enhance visualization of the vaginal canal and cervix when feasible. Use of antiperistaltic agents to reduce bowel motion varies by institution(Hassen et al., 2024).

Standard 2D non-fat-saturated fast spin echo sequences are typically acquired with 4–5 mm slice thickness and a 24–26 cm field of view. Axial views help assess the number of cervical or vaginal canals, while oblique coronal images, aligned with the uterine long axis, provide optimal visualization of the uterine fundal contour(Hu & Ho, 2025).

3D fast spin echo sequences are especially useful in complex anomalies, allowing multiplanar reconstructions. These can include double oblique and curved planar views, helpful for visualizing the entire uterus, cervix, and vagina in a single image, even if their orientation is atypical(Hu & Ho, 2025).

A coronal T2-weighted image with a wide field of view should be included to evaluate the kidneys, as renal anomalies can accompany MDA(Shebreya et al., 2024).

Algorithmic Approach to Image Interpretation

When evaluating images of the female pelvis, there are three decision points along the pathway to determining the most accurate MDA classification. One must keep in mind this decision pathway is only a framework which will aid in the description of abnormal anatomy, and not all MDA fit neatly into a classification or category. (Maciel et al., 2020)

The first decision point is whether the uterus is absent or present, and if present, if the uterus is smaller than expected. Agenesis, hypoplasia, or a unicornuate uterus indicates that there was failure during the first stage of development. If the uterus is absent, the diagnosis is agenesis. If the uterus is smaller than expected with no zonal anatomy, hypoplasia is present. If only one horn is present on the left or right, with normal zonal anatomy, a unicornuate uterus with or without a rudimentary horn is present(Akhtar et al., 2025).

The second decision point is whether there is a normal outer fundal contour or not. To decide if the outer fundal contour is normal, a line is drawn connecting the top of the left and right uterine horns and the perpendicular distance from the line to the nadir of the outer fundal cleft is measured. (Garratt & Siegelman, 2023)

The arbitrary cutoff of 1 cm was chosen by gynecologists to decide if there is a significant indentation of the outer fundal contour, and this cutoff has been successful in triaging anomalies into the correct classification category. If the outer fundal contour is significantly indented or there are widely splayed right and left uterine horns, fusion of the Müllerian ductal systems is not complete due to failure during the second stage of development. These abnormalities lead to the diagnosis of a uterine didelphys if there is no discernable level of midline fusion (although some portions of the vagina may be fused). (Behr et al., 2012)

A bicornuate uterus is present if there appears to be fusion of the lower and/or miduterine segments. If there is a normal outer fundal contour, fusion has occurred and therefore the abnormality cannot be a didelphys or bicornuate. (Della & Johnson, 2023)

The third decision point will help differentiate between septate and arcuate uterus, and relates to the degree of myometrial/septal indentation into the uterine cavity. To decide if a septum is present, a line connecting the expected location of the ostia of the fallopian tubes is drawn and a perpendicular line along the visualized indentation of the myometrium/septal wall is measured. If the indentation measures less than 1 cm it is likely an arcuate uterus, and if the indentation measures greater than 1 cm it is likely a septate uterus. (Soujanya, 2025)

Multiplanar MRI and Diagnostic Accuracy

MRI is considered the gold standard imaging modality for evaluating Müllerian anomalies, thanks to its exceptional soft-tissue contrast and multiplanar capabilities. T2-weighted sequences allow clear delineation of both internal uterine anatomy and external fundal contour, which are essential for accurate classification and treatment planning. It simultaneously evaluates associated ovarian, adnexal, or renal anomalies in the same scan(Rogers, 2021).

Multiplanar Imaging in Increasing Classification Accuracy and Agreement

Comparative studies between MRI and 3D transvaginal ultrasound show strong concordance ($\kappa \approx 0.74$–0.88), affirming MRI's reliability even where TVUS may be limited (e.g., in non-sexually active patients or diffuse anomalies). Another retrospective series of 62 cases classified anomalies by multiple systems based on MRI findings, indicating that the new ASRM classification aligns better with radiological interpretation than older schemes like AFS and improves diagnostic consistency(Al Najar et al., 2022).

Association with Renal Anomalies

Renal anomalies occur in 29% of MDA and are more commonly associated with unicornuate uteri than with other MDA. They are reported in roughly 40% of unicornuate patients and are ipsilateral to the rudimentary horn. Renal agenesis is the most commonly reported anomaly, occurring in 67% of cases. Other anomalies include ectopic kidney, horseshoe kidney, renal dysplasia and duplicated collecting systems(Mooren et al., 2021).

Effects of Müllerian Duct Anomalies on Reproductive Health

Reproductive outcomes in women with MDA vary with the type of uterine abnormality that is present. Pooled data from multiple studies reveals a septate uterus has a relatively increased rate of spontaneous abortions (65%), compared with unicornuate (50%), didelphys (45%), and bicornuate uterus (30%).

In general, surgery does not change reproductive outcomes in most anomalies with abnormal external fundal contours or underdevelopment. Class I (agenesis/hypoplasia) and II (unicornuate) anomalies are underdeveloped, There are no surgical treatment options for uterine agenesis or hypoplasia, whereas vaginal and cervical underdevelopment can be treated to improve reproductive outcome (Malamoni et al., 2020).

In the case of a unicornuate uterus with a functioning rudimentary horn, surgery may be performed to alleviate symptoms of an obstructed horn. There has been no proven benefit to surgically correcting the nonfused component of the class III (didelphys) and IV (bicornuate) anomalies; however, if a lower uterine septum is present in a bicornuate uterus (Class IV), there is some debate as to whether the septum may be resected in an attempt to improve outcomes (Ludwin&Lindheim, 2020).

In contrast to the nonsurgical approach to most anomalies in Class I through IV, surgical treatment by hysteroscopic metroplasty of a Class V (septate) anomaly is performed routinely and does improve outcomes. Class VI anomalies do not require surgical correction. Class VII anomalies do not have a widely accepted effective surgical correction, although minimizing the risk for multiple gestation, as with other anomalies that have restricted uterine volume, promotes better obstetrical outcomes. In conclusion, treatment is based on the description of the visualized anatomy and in some cases the anatomy will supersede the classification (Noventa et al., 2022).

Therefore, describing the absence or presence of the uterus/cervix/vagina, the size of these structures, the degree of indentation of the outer fundal contour, and the presence and size of a septum will relay the visualized anatomy to the referring physician. The referring physician will be able to decide whether or not the anomaly present is surgically correctable, based on the outer fundal contour and uterine cavity anatomy; therefore, an accurate description of the anatomy is more important than assigning an MDA classification(Daniilidis et al., 2022).

Conclusion

MRI is a highly accurate, reproducible, and non-invasive imaging modality for the assessment of Müllerian duct anomalies. The updated ASRM 2021 classification system provides a practical and comprehensive framework for categorizing a broad spectrum of anomalies. Therefore, MRI should be considered the imaging modality of choice for the diagnosis and classification of Müllerian duct anomalies and for guiding appropriate clinical and reproductive management.

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