Herlyn-Werner Wunderlich Syndrome: A Case Series And Review Of The Literature
M M Beck, N Yohen

INTRODUCTION
Uterus didelphys with obstructed hemivagina and ipsilateral renal agenesis, referred to as Herlyn-Werner Wunderlich (HWW) Syndrome, is a rare clinical entity. The incidence ranges from 0.1-3.8 %. (1) Most commonly diagnosed in adolescent females, soon after onset of menarche, due to presence of haematometrocolpos/haematocolpos, secondary to obstructed hemivagina. Early and accurate diagnosis can, not only relieve acute symptoms, but also preserve fertility. Delay in diagnosis, which is not uncommon, can lead to complications like pelvic adhesions, endometriosis, pyocolpos, pyometra etc. We present a series of four cases of this rare syndrome, who presented to the Gynaecology clinic with varying complaints.

CASE REPORTS
The patient profile, history and clinical examination, Imaging and the surgical management of all the four cases are described in Table 1.
**DISCUSSION**

HWW syndrome is a Wolffian duct induced Mullerian anomaly, comprising of uterus didelphys, vaginal duplication, obstructed hemivagina and ipsilateral absent kidney. The precise etiopathogenesis of HWW syndrome is still unknown.

Embryologically, the internal genitalia and lower urogenital system develops from two pairs of Mullerian ducts and Wolffian (mesonephric) ducts. The two mullerian or paramesonephric ducts fuse to form uterus, oviducts and upper two thirds of vagina. The lower one third of vagina develops from fusion of uterovaginal canal (formed by fused paramesonephric ducts) with urogenital sinus. Arrest in development at 8 weeks’ gestation leads to developmental abnormality of the mesonephric duct and ureteric bud, resulting in ipsilateral renal agenesis. Abnormality of mesonephric duct causes lateral deviation of ipsilateral mullerian duct, thereby preventing its fusion with contralateral mullerian duct and giving rise to uterus didelphys. Deviated mullerian duct is also unable to meet the urogenital sinus centrally, hence, obstructed hemivagina develops. (2)

Patients, mostly postpubertal adolescent females, present with progressively worsening pelvic pain and primary dysmenorrhea. Delay in diagnosis is due to presence of regular menstrual flow from unobstructed system, even in the presence of obstructed hemivagina. This was seen in two of our patients who presented several years after menarche, one with severe dyspareunia and second with primary infertility. Physical examination may reveal a pelvic mass on per rectal examination, but may not be feasible in very young patients.

Ultrasound helps in diagnosis of mullerian anomalies and detection of haematometra /haematocolpos (fluid collection with low level echoes), but it cannot identify the type of anomaly. Magnetic resonance imaging (MRI) with multiplanar image acquisition provides more detailed information of uterine morphology, cervixes, patency of each vaginal lumen and associated endometriosis. It can provide information regarding the nature of low echogenicity contents (T1-W fat saturated hyperintensity suggestive of blood). It also reveals the absence of one kidney and the compensatory hypertrophy of the other as well as other associated anomalies (3)

HWW syndrome is, sometimes, associated with ‘thin basement membrane disease’ of the contralateral kidney. Patients may present with microscopic haematuria and recurrent urinary tract infections. Percutaneous needle biopsy of the kidney reveals thinning of the basement membrane of the glomeruli. (4)

Prognosis is good after surgical management. Definitive treatment includes resection of the obstructing vaginal septum, draining the collected blood or pus from the vagina and marsupialisation of the vaginal edges. (5) Marsupialisation is important to prevent recurrence of obstruction. (2) Timely intervention, not only relieves acute symptoms, but also prevents complications of chronic cryptomenorrhoea like endometriosis, pelvic adhesions, pyocolpos, pyometra and pyosalpinx. (1) Reproductive outcome is good after treatment, with 87% women having successful pregnancy. However, 15% may have preterm birth and 23% may have miscarriage. (5)

High index of suspicion in young girls presenting with progressively worsening dysmenorrhea and pelvic pain, with presence of pelvic mass, will help clinch the diagnosis.
In all patients with Mullerian anomalies, it is important to evaluate the urinary tract. Renal anomalies are found in 30% cases with Mullerian anomalies due to embryological relationship between the two. (3) In a female neonate with diagnosis of renal agenesis or multicystic dysplastic kidneys, it is prudent to look for genital malformations.

References
Author Information

Manisha Madhai Beck
Associate Professor, Department of Obstetrics and Gynaecology Unit II, Christian Medical College
Tamil Nadu, India
beckmanisha@yahoo.com beckmanisha@cmcvellore.ac.in

Nandeibam Yohen
Assistant Professor, Department of Obstetrics and Gynaecology Unit II, Christian Medical College
Tamil Nadu, India