INTRODUCTION

Vesicouterine fistula is the least common communication between the reproductive and urinary tracts, which comprises 1 - 4% of all urogenital fistulae. It is mostly noticed after obstetrical intervention. In the past it was a rare complication of prolonged child birth or a vaginal birth, with the use of forceps. Nowadays, with the wider indications of caesarean section, the most common is the post-caesarean section vesicouterine fistula. It comprises 83 - 93% of all cases. Most result from emergency caesarean sections, or from previous caesarean sections, even after a long period. During the caesarean section, the prime factors responsible for this fistula formation include, incomplete bladder mobilization and accidental placement of sutures through the bladder wall. Other causes of vesicouterine fistula are intrauterine contraceptive device, manual removal of placenta, malignant tumours, inflammatory bowel disease, uterine / bladder rupture after obstructed labour, radiotherapy and iatrogenic trauma of intermittent self-catheterization of the bladder. It has also been documented after Shirodkar and Mc Donald cerclage as well. It is a rare clinical entity with significant morbidity.

The importance of this condition can be highlighted by the presence of alarming symptoms like menouria and possibility of distressing urinary incontinence. The present case describes the report of a middle-aged lady with menouria following obstetric trauma.

CASE REPORT

A 41 years old lady presented to the urology outdoors with 13 years history of urinary incontinence accompanied by menouria, which had developed after the first vaginal delivery. However, she had four normal vaginal deliveries later. Intravenous urography showed normal flow on both sides but there was spillage of contrast from the urinary bladder into the uterus, in the cystographic phase. Cystoscopy showed a fistulous opening in the posterior wall of bladder above the trigone. She was subjected to total abdominal hysterectomy with repair of the fistulous bladder opening. Postoperative recovery was smooth and the patient became asymptomatic.

Key Words: Menouria. Urinary incontinence. Vesicouterine fistula. Hysterectomy.

Vesicouterine Fistula

Badar Murtaza1, Waqar Azim Niaz1, Arshad Mahmood1, Muhammad Akmal1, Hussain Ahmad1 and Saira Saeed2

ABSTRACT

A 41 years lady presented with 13 years history of urinary incontinence alongwith menouria, which had developed after the first vaginal delivery. However, she had four normal vaginal deliveries later. Intravenous urography showed normal flow on both sides but there was spillage of contrast from the urinary bladder into the uterus, in the cystographic phase. Cystoscopy showed a fistulous opening in the posterior wall of bladder above the trigone. She was subjected to total abdominal hysterectomy with repair of the fistulous bladder opening. Postoperative recovery was smooth and the patient became asymptomatic.

Key Words: Menouria. Urinary incontinence. Vesicouterine fistula. Hysterectomy.

INTRODUCTION

Vesicouterine fistula is the least common communication between the reproductive and urinary tracts, which comprises 1 - 4% of all urogenital fistulae. It is mostly noticed after obstetrical intervention. In the past it was a rare complication of prolonged child birth or a vaginal birth, with the use of forceps. Nowadays, with the wider indications of caesarean section, the most common is the post-caesarean section vesicouterine fistula. It comprises 83 - 93% of all cases. Most result from emergency caesarean sections, or from previous caesarean sections, even after a long period. During the caesarean section, the prime factors responsible for this fistula formation include, incomplete bladder mobilization and accidental placement of sutures through the bladder wall. Other causes of vesicouterine fistula are intrauterine contraceptive device, manual removal of placenta, malignant tumours, inflammatory bowel disease, uterine / bladder rupture after obstructed labour, radiotherapy and iatrogenic trauma of intermittent self-catheterization of the bladder. It has also been documented after Shirodkar and Mc Donald cerclage as well. It is a rare clinical entity with significant morbidity.

The importance of this condition can be highlighted by the presence of alarming symptoms like menouria and possibility of distressing urinary incontinence. The present case describes the report of a middle-aged lady with menouria following obstetric trauma.

CASE REPORT

A 41 years old lady presented to the urology outdoors with 13 years history of urinary incontinence accompanied by menouria, which had started after a normal vaginal delivery. The delivery was conducted at home by a traditional birth attendant (TBA). She was experiencing a normal flow of micturition with intermittent incontinence. She noted that at times the incontinence disappeared even for a whole day. This was not associated with straining, coughing or urgency. The leakage occurred during the sleep as well. Passage of blood in the urine during the menstrual period (menouria) was also noted. The menses lasted for 3 days and haematuria persisted during this period. It subsided on the cessation of the menstrual flow. After the first pregnancy, she had four more pregnancies with normal vaginal deliveries with no complications. All were conducted by TBA at home. Her youngest child was 5 years of age at the time of presentation. There was no history of diabetes mellitus, hypertension or bronchial asthma.

On examination, she was a healthy looking lady with stable vital signs. She was neither pale nor jaundiced. Abdominal examination did not reveal any abnormality. Speculum examination showed normal vaginal wall and cervix with no significant urinary leakage seen. The rest of the systemic examination was normal. Her Hb was 12.5 g/dl, total and differential leucocyte counts were normal. Serum urea, creatinine, bilirubin, alanine aminotransferase, alkaline phosphatase, ECG and chest radiograph were normal. Ultrasonography abdomen and pelvis did not reveal any abnormality. Intravenous urography (IVU) showed normal excretion of contrast on both the sides with no dilatation (Figure 1). However, the cystographic phase of the IVU highlighted spillage of contrast into the uterine cavity (Figure 2). Thus, a diagnosis of vesicouterine fistula was made and surgical intervention was planned.

Under general anaesthesia, cystoscopy was performed. This revealed normal urethra, trigone and the bladder
wall except that a small fistulous opening was seen in the posterior wall of bladder above the trigone. After the cystoscopy, exploration was performed through a pfannenstiel incision. The peritoneal cavity was opened and uterus was found adhered to the bladder anteriorly, the rest of the cavity was normal. Accordingly total abdominal hysterectomy was performed preserving the ovaries on both sides. The urinary bladder was dissected in the extraperitoneal plane and the fistulous opening was seen in the posterior wall of the bladder. The opening was repaired with 3/0 vicryl and a peritoneal flap was also used to cover the defect. A drain was placed in the pelvic cavity and the wound was closed in layers. A perioperative antibiotic cover of cefoperazone/ salbactum was given. The postoperative recovery was smooth and the patient was mobilized early with no urinary incontinence. She was followed-up 4 weeks after the surgery and was found asymptomatic.

**DISCUSSION**

Vesicouterine fistula is a rare condition, with few cases reported in the last decade. Bhutta reported 5 cases in 7 years and Sohail registered 12 cases in 11 years. The knowledge of its clinical presentation is very important. Cyclic haematuria or menouria, which is the cyclic blood stained urine during the time of menstruation, is commonly seen in these patients. This can be accompanied by intermittent or continuous urinary incontinence. The patient may be experiencing normal menses, but in certain cases amenorrhoea may be seen alongwith absence of urinary incontinence.

The symptoms of vesicouterine fistula are dependent upon the level of fistula. This can be explained by the sphincteric mechanism of the uterine isthmus and the different pressure gradients. During the menstrual cycle a change is seen in the shape and diameter of the isthmus lumen. The menstrual blood accumulates in the uterine cavity and when the pressure rises above 25 - 30 mmHg, the sphincter of the isthmus relaxes and a bloody discharge occurs. If the fistula is above the level of the isthmus, the blood present in the uterine cavity flows freely into the bladder causing menouria. There is no accumulation of blood in the uterine cavity, so the cavity does not distend and the pressure does not increase, thus the sphincter of the isthmus fails to relax, producing the classical combination of symptoms of menouria, amenorrhoea with a patent cervical canal and absence of urinary leakage, known as “Youssef syndrome”, which comprises > 90% of all cases. This syndrome was reported in 1957. However, if the fistula is located below the level of isthmus, the menstrual blood, not only flows into the bladder but also through the cervix into the vagina, thus, having normal menses alongwith menouria. Conversely, when submitted to high pressure in the bladder, urine leaks through the fistula into the uterine cervix and vagina. As in this case, the patient did not show the classical features of Youssef syndrome, she had menouria with urinary incontinence and normal menses.

Ultrasonography has a limited role as far as the vesicouterine fistula is concerned, but may be useful in assessing the upper urinary tract. However, transvaginal ultrasound is better at visualizing the genitourinary fistulae. Intravenous urography is useful for evaluating the upper urinary tract and possible ureteral involvement. But in this case, it was useful in noting the diagnostic spillage of contrast from the urinary bladder into the uterus, in the cystographic phase. MRI pelvis and CT scan can be diagnostic for the genitourinary fistulae. Hysterography is a useful investigation, infact a better one as compared to cystography. In this case, the patient had the complaints of urinary incontinence with menouria and normal menses, thus, we went for an...
IVU which helped us in reaching the diagnosis. This was supplemented by the cystoscopic findings.

The management may be conservative, medical or surgical. Spontaneous closure has been reported with early recognition of the fistula, treatment of urinary tract infection and bladder catheterization for at least 3 weeks. Oral contraceptive pills and gonadotropin releasing hormones analogues can induce amenorrhea, thus, allowing the fistulous tract to heal and close by reducing tract menstrual flow. This may be useful especially in Youssef syndrome, as the urinary incontinence seen in other cases, maintains tract patency. Cystoscopic electrocoagulation of the fistula alongwith hormonal suppression of menstruation can be effective in cases of small vesicouterine fistula.8 Laparoscopic repair of vesicouterine fistula is now evolving as a new procedure with minimal blood loss and less morbidity. Open surgical procedures may range from repair of the fistulous tract to hysterectomy. Bhutta also recommended surgical intervention in this fistula with uterus preservation in females who intend to complete their family.5 Successful repair of uterine and bladder ends of the fistula have been noted with excellent results.9 Postoperative pregnancies have also been reported.10

REFERENCES