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Menouria- Post Caesarean Vesico-uterine Fistula

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Abstract: Vesico-uterine fistula (VUF) is an uncommon urogenital fistula. Menouria is an important clinical feature of this fistula. A case report of VUF following cesarean sections is reported. There were several investigations done to arrive at a diagnosis of VUF. This case was successfully managed by surgical repair. One year following the repair she conceived and currently she is ten weeks of pregnant. VUF can be prevented by good surgical techniques.

Keywords: menouria, Vesico-uterine fistula.

INTRODUCTION

The name "menouria" describe the cyclical haematuria as the chief presenting symptom. It is characterized by the presence of a VUF above the level of the internal os, the occurrence of vesical menstruation, the absence of vaginal menstrual periods and the absence of urinary incontinence although the cervical canal is patent. This clinical picture is also known as Youssef, s syndrome[1]. Endometriosis of the Bladder is a differential diagnosis.

CASE

She is Mrs X, a 26 year of teacher who underwent lower segment caesarean section on 17-04-2015 for lack of progress of labour on her 39 weeks of gestation. Her pregnancy was otherwise uncomplicated. She had haematuria on the same post-operative day. Unfortunately, the haematuria was ignored, and the urinary Foley's Cather was removed following postoperative day.

Then she developed vaginal leakage of urine from the second post-operative day which was initially managed with urinary Cather and oral antibiotics for two weeks. Unfortunately, no improvement was noted on her clinical symptoms.

She was subjected to several investigations in order to establish the diagnosis of VUF. She underwent cystoscopy three times. The first two cystoscopy failed to identify the VUF.As she persistently complained cyclical haematuria repeated cystoscopy was performed. The cystoscopy that was performed third time confirmed the diagnosis of VUF. She also underwent CT-IVU but the result was inconclusive.

She underwent laparotomy under general anesthesia for fistula repair. The fistula tract between the bladder and uterine isthmus was dissected and removed. The bladder and the uterus were sutured separately. The Omental graft was placed in-between the two organs. The postoperative period was uneventful, and she fully recovered from her symptoms

of menouria and resumed monthly menstruation. Ten months following the fistula repair she embarked upon another pregnancy and currently she is ten weeks of pregnant.

DISCUSSION

The closeness of the female genital and urinary tract in the pelvis exposes them to trauma during the obstetrical procedure and of surgical techniques. The surgery is the main etiological factor in developed countries. It may also occur secondary to vaginal birth on scarred uterus, following high forceps delivery, external cephalic version, curettage or manual removal of the placenta, placenta percreta, uterine rupture due to obstructed labor, uterine artery embolization, migration of an intrauterine device, and secondary to an actinomycotic infection, urinary bladder tuberculosis and brachytherapy for cervix carcinoma [2-12].

The most common type of obstetric fistula is vesico-vaginal. The VUF occurs in 1-4 %. The injury during Caesarean section accounts for 83-88% cases of

VUF. Its incidence increases corresponding to increasing rate of Caesarean section [13,14].

Three mechanisms are suggested for the creation of a VUF [15,16]: *the first mechanism* is represented by the operative trauma to the urinary bladder. Most fistulas are caused by dissection of the bladder during the mobilization of the bladder flap, which causes devascularization or an unrecognized tear of the posterior bladder wall. Alternatively, if the vaginal cuff suture was unknowingly incorporated into the bladder this can result in tissue ischemia, necrosis and subsequent fistula formation. The VUF secondary to a caesarean section could also be due to the unrecognized intraoperative bladder injury; especially if an emergency caesarean section is performed following prolonged labour with oedematous tissues and where the excessive speed of the surgical procedure exposes to many technical errors. This trauma can also be a result of inadequate or failure of separation of vesico-uterine peritoneum from the uterine lower segment.

In the second mechanism, the fistula results from vaginal birth following difficult or prolonged labour. In this situation the head of the fetus compresses the trigone of the urinary bladder neck against the anterior arch of the pubic symphysis. This may result in tissue ischemia, necrosis and eventual fistula formation from the fall of bedsores.

The inter-vesicouterine abscess, one of the post-operative complication after caesarean section, is the third mechanism explain the creation of vesico-uterine fistula. Repeat Caesarean section may result in progressive devitalisation and scarring of the uterus and bladder base by damaging their vascular network thus predisposing to fistula formation [2].

The tone of the uterine isthmus is greater than the urinary bladder muscle so the unidirectional flow from the uterus to the urinary bladder can be seen. Therefore, menstrual blood leaks into the bladder from the uterus; no other way around. Those fistula that emerge above the uterine isthmus function in both directions [17].

If there is a direct injury to the urinary bladder during surgery she can present early features such as haematuria and/or urinary leakage, voiding difficulty, low grade pyrexia, urinary sepsis or complete asymptomatic (5). Delayed presentation can occur when there is infection or a progressive devitalisation of the posterior wall of the bladder [2]. Patient often have symptoms of urinary leakage from the vagina, if the Cervix is incompetent. If the cervix is competent she presents with cyclical haematuria (menouria), Amenorrhea, Infertility or first trimester Abortion [2, 18].

Accurate and early diagnosis of VUF can be difficult with the clinical diagnosis alone. The main stay of diagnosis is Cystoscopy and urinary tract imaging. However, several and repeated examinations may be required to confirm the diagnosis. Contrast enhanced CT and MRI are additional diagnostic procedures that are employed.

The management can be conservative, medical or surgical treatment [1]. when small fistula is diagnosed early, it can be managed conservatively with bladder catheterization and antibiotics for 2-3 weeks. Some cases were successfully managed with amenorrhea induced by combined oral contraceptive pill or Gonadotrophin Releasing Hormone analogs due to the involution of the uterus. The endoscopic fulguration of the fistula also described in up to 5% cases. In most cases surgical closure of the VUF is the treatment of choice, especially for large VUF [2]. Surgical repairs are performed by different approaches, such as Vaginal, Transvesical, Transperitoneal and Laparoscopic procedures [18].

CONCLUSION

The cases were diagnosed on the basis of medical history, radiological examinations and cystoscopy. The vesico-uterine fistulas are often secondary to Caesarean section or abnormal delivery. The treatment is often surgical but is above all preventive measures should be taken during Caesarean section. Urinary tract injury is a known complication in obstetric and gynaecological procedure. Surgeon familiarity and comfort with complex anatomy, as well as addressing patient-specific risk factors help to stratify risk preoperatively and is essential to minimize the risk of urinary tract injury.

Intraoperative Screening and recognizing the injury early is the first step in preventing delayed diagnosis of injury. Good surgical technique would prevent the occurrence of fistula during caesarean section. Careful dissection of the bladder away from the site of uterine incision during repeat caesarean sections if bladder is pulled up. If the bladder is firmly adherent to the lower uterine segment the uterine incision should be made above the bladder attachment. It will avoid accidental cut injury to the bladder and can prevent a major problem.

A high index of suspicion postoperatively with appropriate imaging will promote early diagnosis of intraoperative injuries. If the caesarean section is done by less experienced medical officer, seeking help from consultant gynaecologist or urologist is recommended when definitive intraoperatively repair is possible. Postoperative repair of injury may require additional interventions prior to corrective surgery.

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