Ureteral injury in an incidental vaginal incision during cesarean section

J Nasouhi*, A Mahdavi, S Gity

Department of Obstetrics and Gynecology, Shahid Beheshti University of Medical Sciences, Tehran, Iran

Abstract

Incidental vaginotomy, a potentially severe complication, has occasionally been reported in cesarean sections performed after prolonged second stage labor. There is controversy on the significance of vaginotomy and its consequences in cesarean section. Ureteral injury has been reported as a possible complication of cesarean section. Herein, we present a case of anterior vaginal incision instead of lower uterine segment, where the right ureter had been obstructed by sutures. The injury was detected and corrected during the operation. Thus incidental vaginotomy in cesarean section must be taken seriously and avoided as far as possible. It is also crucial to inspect and preserve the integrity of ureters in such cases.

Keywords: Cesarean; Vaginotomy; Ureter

Introduction

Delivery by trans-abdominal and anterior vaginal wall incision (laparoelytromy) in cases of second stage labor arrest was practiced in the 19th and 20th centuries. Later studies proved that this technique was not recommendable and the practice abandoned. In spite of that, incidental vaginal incision instead of the common incision of the lower uterine segment is associated with some cesarean sections. Among 10128 cases of cesarean sections in Shohada Hospital over a period of 20 years, we had only one case of vaginotomy and that single case resulted in ureteral obstruction.

Case report

A 30-year-old nulliparous woman with term pregnancy and in her latent phase was admitted to our hospital. Her blood group was O negative. After seven and a half hours in labor, the cervix became fully dilated. An hour later, due to persistent fetal bradycardia at station +1 Simpson forceps was applied, but it was unsuccessful. After 45 minutes, cesarean section was performed under general anesthesia through a Phannenstiel incision and a perceived lower uterine segment incision was made just above the fetal head.

A female neonate weighing 3200 grams was delivered with an Apgar score of 7/10 at first and fifth minute. The incision had an extension on the right side and a transverse web was visible at the posterior wall of the uterus. The tissue underneath the web seemed to be vaginal mucusa. An examination at the lithotomy position revealed that the incision was in the vagina instead of lower segment of the uterus. The incision was repaired in two layers. Before closing the abdomen, the patient was found to be oliguric. Her blood pressure was 120/60 mmHg and because of profuse bleeding and due to the short blood supply at the time, she received 4 liters of fluid including 5% DW and Ringer Lactate and one unit of blood. In the absence of convincing reason for the oliguria and despite weak possibility of bilateral ureteral obstruction, we decided to inspect the urinary system and expose the ureters. The inspection was first carried out on the right side of the incision where there was an extension. We found that the right ureter was obstructed between the sutures and its overlying portion dilated.

*Correspondence: Jafar Nasouhi, MD, Assistant Professor of Department of Obstetrics and Gynecology, Shahid Beheshti University of Medical Sciences, Tehran, Iran. e-mail: jnasouhi@yahoo.com Received: Jan 18, 2007 Accepted: April 22, 2007
The ureter was freed and its integrity preserved after removing some sutures on the ureteral wall. Fortunately the damage to the ureteral wall was not significant. The bladder was also intact as shown by dye instillation and the urinary output was corrected in the meantime. The operation lasted one hour and 45 minutes. The patient’s hemoglobin dropped from 14.5 g/dl (before c/s) to 10.2 g/dl the day after the operation. The patient was discharged from the hospital after 5 days, but was re-admitted 3 days later for wound infection. Having treated the infection, she was discharged after 4 days. Her clinical examination, renal tests and ultrasound of the urinary system performed three weeks later were all normal.

Discussion

Data about incidental vaginotomy during cesarean section is very limited and its prevalence is not known well. We believe that many of such cases remain undetected. In one study the prevalence was known well. We believe that many of such cases remain undetected. In one study the prevalence was reported to be 0.04%. In our hospital, this rate was 0.01%. Although very uncommon, ureteral injury may follow this type of cesarean section because of risk factors described below. To prevent such injury and the possible subsequent complications, this type of cesarean section require special care, skill and follow-up. Detecting this complication is usually possible after delivery of the fetus and placenta and observation of the incision (vaginal mucusa and cervical lips). This latter finding has been named “3-edge sign”. Prolonged second stage labors and deep fetal head entrapments, which was also found in our case, are among the known risk factors for incidental vaginotomy. Some clinicians believe that emergency set-up is also a risk factor. While some specialists have played down the risks of incidental vaginotomy, it was considered by others as a serious complication that needed to be avoided. Complications reported in such incorrect incisions include severe bleeding, bladder injury, hysterectomy, and technical problems in repairing the incision. Ureretal injury as a possible complication has been the focus of attention in all studies. Our case also attested this serious complication. We could not find any report on an acute oliguria resulting from intraoperative obstruction of one ureter. In this context, the cause of oliguria in our patient remained unknown. Incidental vaginotomy may be unavoidable, yet we believe that every effort must be made to prevent it as far as possible. In our view, to avoid this problem, the lower uterine segment incision must always be made one or two centimeters below the reflection of the peritoneum above the margin of the bladder overlapping the anterior lower uterine segment irrespective of the location of the presenting part. In cases of deep fetal head entrapment, the technique of reverse breech delivery is helpful and safer than vaginal pushing up process. In cases of incidental vaginotomy, a liberal check up for the ureters is recommended.

References