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Incidence of Ureteric injury in complicated cesarean section and late complications

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Abstract:

Background;Most common operation in gynecological department is c/s ,high percentage of c/s are complicated resulting with many early and late complication, one of intraoperative complication is ureteric injury and or ureteric ligation.

Patients and methods:through 3 years between may 2011- may 2014 on 34 patients get ureteric injury in a complicated C/S discovered either intra operatively or as an early post operative complication with confirm diagnosis by IVU. those patients correct the defect by re anastamosis with ureteric catheterization for two months then fallow up to detect any post operative ipsilateral renal complication.

Results: We get 26 patient (76.4%) was complain from intermittent ipsilateral renal symptoms , repeated U/S showing ipsilateral mild dilated PCS with chronic U.T.I in general urine examination.

Conclusion: Ureteric injury may lead to chronic complaining of the patients from chronic U.T.I and a sequence of ureteric stenosis , so we advise that in any complicated C/S we need a urosurgical doctor in addition to the gynecologist surgeon to avoid as much as possible ureteric injury.

Aim of study: To assess the incidence of ureteric injury with a complicated C/S.

Key word: ureteric injury,cesarean section, ureteric anastomosis, post operative complication

معدل اصابة الحالب بعد عمليات الولادة القيصرية المعقدة والمضاعفات المتاخرة

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الخلاصة:

الخلفية: العملية الأكثر شيوعا في قسم أمراض النساء هي العمليات القيصرية، نسبة عالية من العمليات القيصرية معقدة الناتج مع العديد من المضاعفات المبكرة والمتأخرة ، واحدة من مضاعفات أثناء العملية هو إصابة الحالب وأو الحالب ربط.

المرضى والطرق: أجريت هذه الدراسة في مستشفى بنت الهدى التعليمي، مستشفى الحسين التعليمي والمستشفيات الأخرى من محافظة ذي قار خلال ٣ سنوات ما بين مايس ٢٠١١- مايس ٢٠١٤ على ٣٤ مرضى الحصول على إصابة الحالب في العمليات القيصريه، اكتشف إما اثناء الجراحة أو المضاعفات بعد العملية في وقت مبكر مع تشخيص تأكيد من قبل فحص الحالب بالصبغة. هؤلاء المرضى تم تصحيح الخلل من خلال إعادة الربط مع قسطرة الحالب ومتابعة لمدة شهرين حتى اكتشاف أي مضاعفات للكلى بعد العملية.

النتائج: نحن حصلنا على ٢٦ مريض (٧٦.٤٪) يشكو من أعراض متقطعة في الكلى لنفس الجهة، فحص السونار اثبت توسع في الحويصلات الكلوية والتهاب من خلال فحص البول العام.

الاستنتاج: إصابة الحالب هي المضاعفات الرئيسية في العمليات القيصريه المعقدة والتي تؤدي إلى الشكوى المزمنة من المرضى من التهاب المسالك البولية المزمنة وتضيق الحالب بالتالي على الرغم من إدخال القسطرة للحالب، لذلك فإننا ننصح في أي عملية قيصرية معقدة نحتاج إلى طبيب جراح بالإضافة

إلى جراح أخصائي أمراض النساء لتجنب إصابة الحالب الممكنة.

الكلمات الرئيسية : إصابة الحالب ، القيصرية، ربط الحالب.

الهدف من الدراسة: تقييم حالات إصابة الحالب مع العمليات القيصرية المعقدة .

Introduction:

A Cesarean section is a surgical procedure in which one or more incisions are made through a mother's abdomen (laparotomy) and uterus (hysterotomy) to deliver one or more babies, or, rarely, to remove a dead fetus. A late-term abortion using Caesarean section procedures is termed a hysterotomy abortion and is very rarely performed. The first modern Caesarean section was performed by Dr James Barry in Cape Town, South Africa on 25 July 1826. A Caesarean section is usually performed when a vaginal delivery would put the baby's or mother's life or health at risk, although in recent times it has also been performed upon request for childbirths that could otherwise have been natural. In recent years, the rate has risen to a record level of 46% in China and to levels of 25% and above in many Asian, European and Latin American countries. The rate has increased significantly in the United States, to 33 percent of all births in 2011, up from 21 percent in 1996, and in the rate in 2009 varied widely between hospitals (ranging from 6.9% to 69.9% of births). Across Europe, there are significant differences between countries: in Italy the Caesarean section rate is 40%, while in the Nordic countries it is only 14%. Medical professional policy makers find that elective cesarean can be harmful to the fetus and neonate without benefit to the mother, and have established strict guidelines for non-medically indicated cesarean before 39 weeks.

History:

Successful Caesarean section performed by indigenous healers in Kahura, Uganda. As observed by R. W. Felkin in 1879. The mother of Bindusara (born c. 320 BCE, ruled 298 – c.272 BCE), the second Mauryan Samrat (emperor) of India, accidentally consumed poison and died when she was close to delivering him. Chanakya, the Chandragupta's teacher and adviser, made up his mind that the baby should survive. He cut open the belly of the queen and took out the baby, thus saving the baby's life. According to the ancient Chinese Records of the Grand Historian, Luzhong, a sixth-generation descendant of the Yellow Emperor, had six sons, all born by "cutting open the body". The sixth son Jilian founded the House of Mi that ruled the State of Chu (c. 1030–223 BCE).

The Babylonian Talmud, an ancient Jewish religious text, mentions a procedure similar to the Caesarean section. The procedure is termedyotzei dofen.

The Catalan saint Raymond Nonnatus (1204–1240), received his surname—from the Latin non-natus ("not born")—because he was born by Caesarean section. His mother died while giving birth to him. An early account of Caesarean section in Iran is mentioned in the book of Shahnameh, written around 1000 AD, and relates to the birth of Rostam, the national legendary hero of Iran. According to the Shahnameh, the Simurgh instructed Zal upon how to perform a Caesarean section, thus saving Rudaba and the child Rostam. Caesarean section usually resulted in the death of the mother; the first recorded incidence of a woman surviving a Caesarean section was in the 1580s, in Siegershausen, Switzerland: Jakob Nufer, a pig gelder, is supposed to have performed the operation on his wife after a prolonged labour. However, there is some basis for supposing that women regularly survived the operation in Roman times. For most of the time since the 16th century, the procedure had a high mortality rate. However, it was long considered an extreme measure, performed only when the mother was already dead or considered to be beyond help. In Great Britain and Ireland, the mortality rate in 1865 was 85%. Key steps in reducing mortality were:

Types of c/s

The classical Caesarean section involves a midline longitudinal incision which allows a larger space to deliver the baby. However, it is rarely performed today, as it is more prone to complications.

The lower uterine segment section is the procedure most commonly used today; it involves a transverse cut just above the edge of the bladder and results in less blood loss and is easier to repair. An unplanned Caesarean section is performed once labour has commenced due to unexpected labor complications.

A crash/emergent/emergency Caesarean section is performed in an obstetric emergency, where complications of pregnancy onset suddenly

during the process of labour, and swift action is required to prevent the deaths of mother, child(ren) or both. A planned caesarean (or elective/scheduled caesarean), arranged ahead of time, is most commonly arranged for medical reasons and ideally as close to the due date as possible. A Caesarean hysterectomy consists of a Caesarean section followed by the removal of the uterus. This may be done in cases of intractable bleeding or when the placenta cannot be separated from the uterus.

Traditionally, other forms of Caesarean section have been used, such as extraperitoneal Caesarean section or Porro Caesarean section.[18] Cesarean section can be performed with single or double layer suturing of the uterine incision. A Cochrane review came to the result that single layer closure compared with double layer closure was associated with a statistically significant reduction in mean blood loss.

Risks

Risks for the mother

The mortality rate for both Caesarian sections and vaginal birth, in the Western world, continues to drop steadily. In 2000, the mortality rate for Caesareans in the United States were 20 per 1,000,000. The UK National Health Service gives the risk of death for the mother as three times that of a vaginal birth. However, it is misleading to directly compare the mortality rates of vaginal and Caesarean deliveries. Women with severe medical conditions, or higher-risk pregnancies, often require a Caesarean section which can distort the mortality figures. A study in the Canadian Medical Association Journal found the absolute difference in rates of severe maternal morbidity (e.g. cardiac arrest, wound hematoma, or hysterectomy) was small (18.3 additional cases in 1000 or three times the risk) and the difference in maternal mortality was nonsignificant, but this additional risk over vaginal delivery should be considered by women contemplating an elective Caesarean delivery and by their physicians.

Anatomy of ureter:

In human anatomy, the ureters are tubes made of smooth muscle fibers that propel urine from the kidneys to the urinary bladder. In the adult, the ureters are usually 25–30 cm (10–12 in) long and ~3–4 mm in diameter. Histologically, the ureter contains transitional epithelium and an additional smooth muscle layer in the more distal one-third to assist with peristalsis.

In females, the ureters pass through the mesometrium and under the uterine arteries on the way to the urinary bladder. An effective phrase for remembering this anatomical relationship is "water (ureters) under the bridge (uterine arteries or vas deferens).

The ureters are also known for being extremely hard to work around during surgery and account for 80 percent of failed kidney transplants.

Patients and methods:

This study done in AL- Nasiriya governorate through 3 years may 2010 to may 2013 on 365 patients who have complicated cesarean section (patients with previous multiple C/S, or with previous rapture uterus and repair or rapture bladder, patients with rapture uterus patients with multiple intra abdominal adhesion with distortion of normal pelvic anatomy) ,those patients collected from AL- Nasiriya governorate ,Al Hussain teaching hospital & Al-Huda teaching hospital. 34 patients (9.7%) were get ureteric injury with complicated CS done by different gynecologist surgeon(.some of those patients discovered intra-operatively other at early post operative time when patients complaining from epsilateral renal colic confirm diagnosis by U/S, we found dilated PCA with proximal hydro ureter. IVU showing ureteric stenosis at the site of injury and reanastamotic site. in Intra operative diagnosis of injury send for urosurgical doctor to correct the problem ,we waiting for a time till the urosurgical team reach to theater then do isolation of the ureter ,reanastemosis by vicryl 3/0 ureteric catheter and fallow up ,other patients who diagnosed at an early post operative period did the operation at urological department directly then fallow up

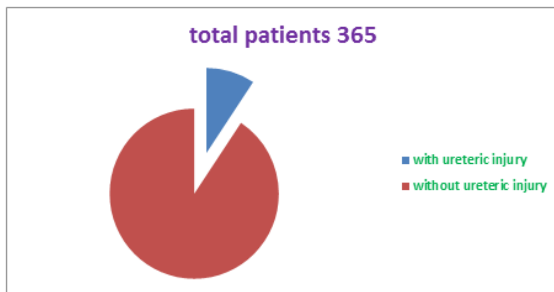
Results:

34 patients (9.6%) from 365 patients with complicated cesarean section have ureteric injury .those patients distributed according to area in AL-naserria city 18 patients (52.9%) ,AL-shatra 7 patients (20.5%) ,suq al shuook 8 patients (23.5%).

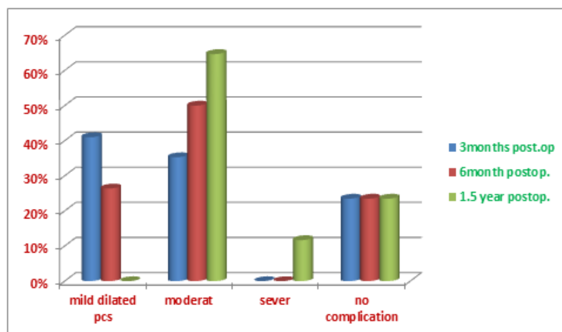
after 3 months from operation we get 14 patients (41.1%) complaining from ipsilateral renal colic with mild dialted PCS .12patients (35.3%) have moderate dilated PCS and 8 patients (23.5%) have no complain. all those patients 26 patients 76.4% in general urine exam we found pus cells ++ wbc ++ and little turbid color urine. At 6 months post operatively we found 17 patients (50%) have moderate dilated P.C.S, 9 patients

(26.4%)have mild dilated P.C.S. ,in general urine exam there is pus cells +++ turbid in color and no R.B.C in all 26 patients .while still 8 patients (23.5) not complaining with normal U/S ,and G.U.E

after 1.5 year post operatively we found that 4 patients 11.7% have huge dilated P.C.S. by U/S and non function kidney by IVU, with 22 patients (64.7%) have moderate dilated PCS.



Paragraph 1: Incidence of ureteric injury in complicated C/S



Paragraph 2: Post operative sequali of ureteric injury in complicated cesserion section

Table 1: Distribution of csese according to geographical area

Alnaserria city	alshatra	Suq alshuook
18 patients	7 patients	8 patients
52.9%	20.5%	23.5%

Discussion:

Ureteric injury with complicated cesarean section represent a serious complication which may lead to loss the epsilateral kidney,even with an early repair of the injury with reanastamosis and ureteric catheterization for two months but still there are many complication may occur post operatively as we see above with about 11.7% may get loss of kidney due to sever hydronephrosis finaly non functioning kidney. High incidence of ureteric injury in AL-huda teaching hospital due to overload of patients who need cesarean section,it's a centre of referring to all complicated cases.

Conclusion:

Because of high risk of ureteric injury with a complicated cesarean section which may lead to a serious complication as a late sequels even with an early discover injury and correct it so we advised that there must be an urosurgical doctor present with the gynecologist surgeon during the operation to decrease as much as possible urinary injury especially ureteric injury.

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