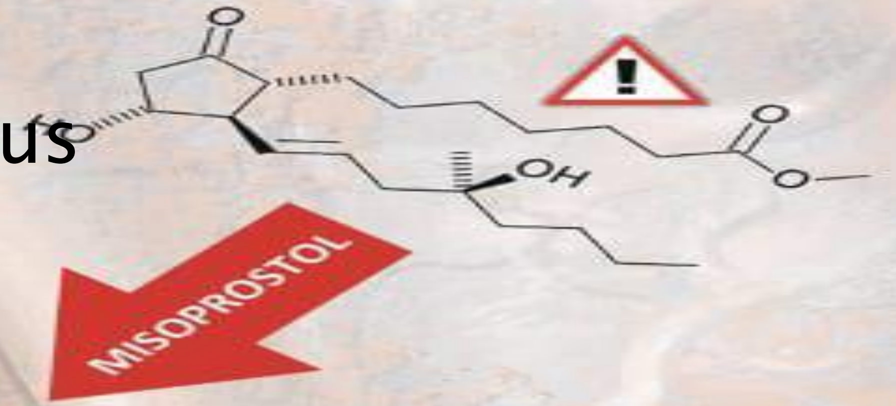
SHORT CASE REPORT
Uterine rupture in a nulliparous woman
NORWEGIAN



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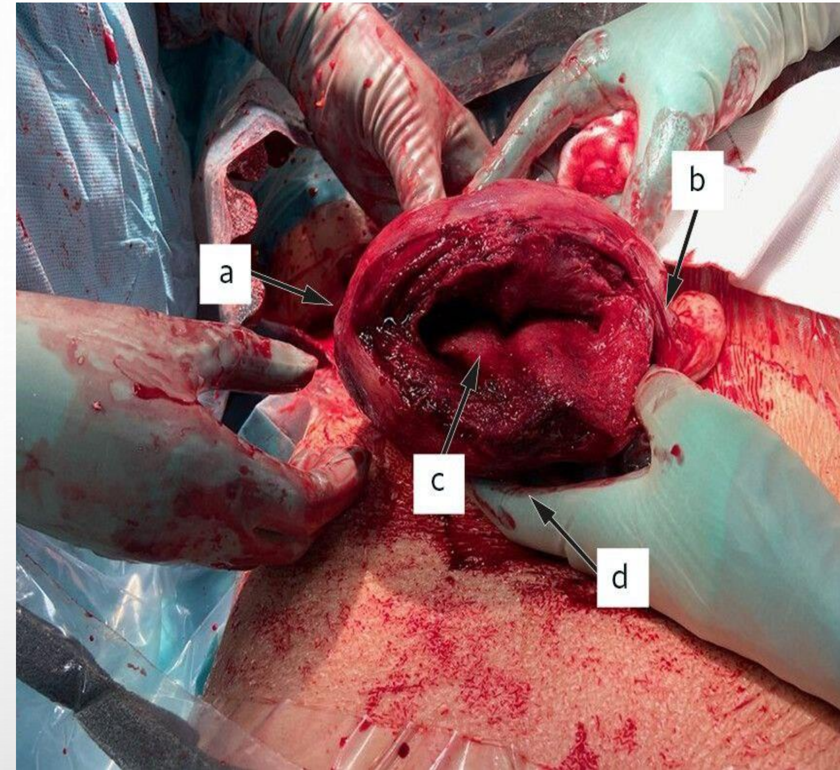
- A previously healthy nulliparous woman in her twenties had a history of right-sided salpingectomy following an ectopic pregnancy four years earlier.
- Three years after the procedure, she underwent a diagnostic laparoscopy with tubal perfusion due to infertility, but subsequently conceived spontaneously.
- The findings of a routine examination in gestational week 42 (41 + 3) were normal, with the fetus in vertex presentation and the placenta located at the top of the uterus.
- Labour was induced three days later with the indication of post-term pregnancy.
- An **ultrasound examination** on admission showed a normal volume of amniotic fluid, spontaneous fetal movements and normal Doppler signals. No placental abnormalities were noted.
- The woman was given 25 µg misoprostol tablets , after an attempt to insert a balloon catheter into the cervix had failed.
- She received four tablets 25 in total. Prior to the last tablet, vaginal examination revealed a closed cervix, while cardiotocography (CTG) showed abnormal fetal sounds and tachycardia of 155 beats per minute (reference range 110–150) with normal variability .
- The woman began to experience increasing contractions and was soon in severe pain.
- She was transferred to the delivery room one hour and ten minutes after the last misoprostol tablet was administered.

- DURING THE TRANSFER, THE WOMAN'S ABDOMEN BECAME HARD AND TENSED AND SHE EXPERIENCED INCREASING PAIN THAT DID NOT EASE BETWEEN CONTRACTIONS.
- AFTER 13 MINUTES, THE MIDWIFE DETECTED A FETAL HEART RATE OF 70-90 BEATS PER MINUTE, AND A DOCTOR WAS SUMMONED.
- ULTRASOUND EXAMINATION CONFIRMED FETAL BRADYCARDIA.
- THE PAIN WAS INTERPRETED AS **UTERINE HYPERSTIMULATION**, ACCOMPANIED BY SIGNS OF FETAL HYPOXIA, AND INTRAVENOUS TOCOLYSIS WAS ADMINISTERED IN THE FORM OF 6.75 **MG ATOSIBAN.**
- THERE WAS NO IMPROVEMENT IN FETAL HEART RATE AFTER THE TOCOLYSIS, AND THE WOMAN WAS PERCEIVED TO BE IN ABNORMALLY SEVERE PAIN.
- VAGINAL EXAMINATION REVEALED THAT THE CERVIX WAS STILL CLOSED.

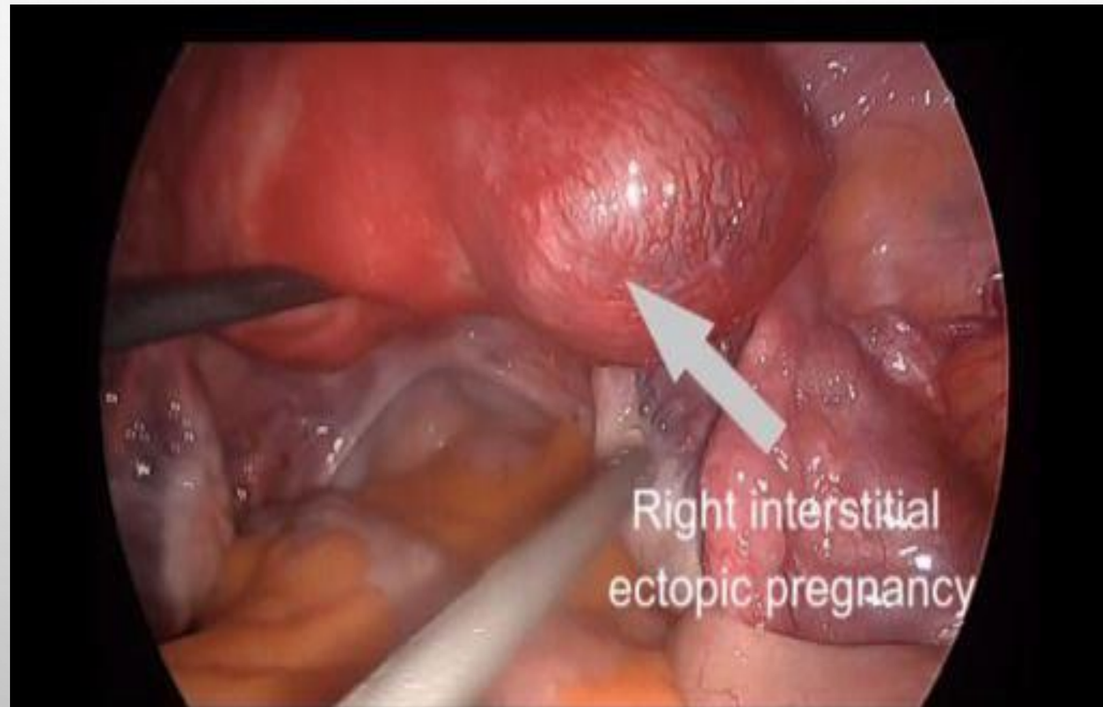
- OWING TO PERSISTENT FETAL BRADYCARDIA, THE WOMAN WAS IMMEDIATELY TRANSFERRED TO THE OPERATING THEATRE FOR AN EMERGENCY CAESAREAN SECTION UNDER GENERAL ANAESTHESIA.
- DURING LAPAROTOMY, CLOTS AND BLOODY FLUID EMPTIED FROM THE ABDOMINAL CAVITY.
- UTEROTOMY WAS PERFORMED AS USUAL
- A PALE, HYPOTONIC INFANT WAS DELIVERED FROM THE VERTEX POSITION.
- THE PLACENTA WAS DELIVERED AFTER BEING FOUND DETACHED IN THE ABDOMEN.
- AS WELL AS A 12 CM LONG UTERINE RUPTURE EXTENDING FROM THE RIGHT TO LEFT TUBAL CORNER ALONG THE TOP OF THE UTERUS (FIGURE 2).



- THE UTEROTOMY AND UTERINE RUPTURE WERE SUTURED IN TWO LAYERS.
- THE TOTAL BLOOD LOSS WAS 600 ML, AND THE WOMAN REMAINED STABLE THROUGHOUT THE PROCEDURE. THE INFANT WEIGHED 3 990 G, AND HAD AN APGAR SCORE OF 1 – 1–4 AFTER 1, 5 AND 10 MINUTES, RESPECTIVELY.
- UMBILICAL CORD BLOOD GAS ANALYSIS REVEALED A PH OF 6.74 (REFERENCE RANGE 7.17–7.48, INDICATING SEVERE FETAL ASPHYXIA.

- THE INFANT WAS DISCHARGED IN GOOD HEALTH TEN DAYS AFTER DELIVERY AND SHOWED NORMAL DEVELOPMENT.

- DISCUSSION:
- THE SURGICAL NOTES FROM THE SALPINGECTOMY WERE OBTAINED POSTPARTUM.
- THESE DESCRIBED A HIGHLY PROXIMAL, BLUISH DILATION OF THE FALLOPIAN TUBE, CONSISTENT WITH AN **INTERSTITIAL ECTOPIC PREGNANCY.**



- INTERSTITIAL ECTOPIC PREGNANCIES ARE LOCALISED IN THE PROXIMAL PART OF THE FALLOPIAN TUBE, IN THE MUSCULAR REGION OF THE UTERINE WALL.
- SUCH PREGNANCIES ACCOUNT FOR 2–4 % OF ALL TUBAL PREGNANCIES , AND ARE MOST OFTEN MANAGED SURGICALLY WITH CORNUAL RESECTION .
- IN OUR PATIENT, INTRAMYOMETRIAL VASOPRESSIN WAS ADMINISTERED IN THE VICINITY OF THE TUBAL CORNER TO ACHIEVE HAEMOSTASIS, AND THE WOUND WAS SUTURED AT THE TUBAL CORNER.
- THE RIGHT FALLOPIAN TUBE WAS THEN REMOVED, BUT CORNUAL WEDGE EXCISION WAS NOT PERFORMED.

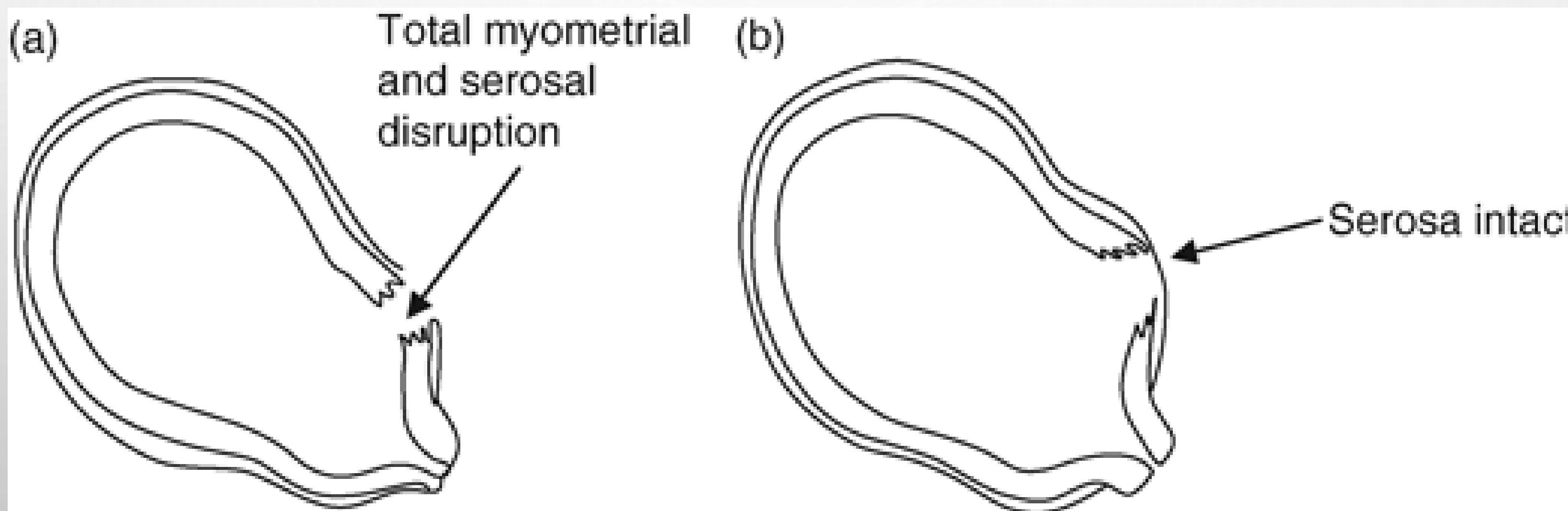
- AN ECTOPIC PREGNANCY IN THE UTERINE HORN SHOULD NOT NECESSARILY LEAD TO A RECOMMENDATION FOR A PLANNED CAESAREAN SECTION, **BUT ONE SHOULD BE AWARE OF UTERINE RUPTURE AS A POTENTIAL COMPLICATION**, ESPECIALLY IF LABOUR IS INDUCED.

UTERINE RUPTURE

- IT IS A LIFE –THREATENING COMPLICATION FOR BOTH THE MOTHER AND FETUS
- THE OVERALL INCIDENCE OF RUPTURE IN PATIENTS WITH A PRIOR CS IS 0.3%
- MOST UTERINE RUPTURES OCCUR WITH TOLAC (TRIAL OF LABOR AFTER CS)0.5%

- RUPTURE :WHEN ALL LAYERS OF THE UTERUS INCLUDING SEROSA ARE SEPARATED
- DEHISCENCS : WHEN THE UTERINE MUSCLE IS SEPARATED ,BUT THE VISCERAL PERITONEUM IS INTACT.

IT IS OFTEN DISCOVERED INCIDENTALLY AT CS



RISK FACTORS

- PRIOR UTERINE RUPTURE OR DEHISCENCE (THE HIGHEST RISK)
- INDUCTION OF LABOR (USING MISOPROSTOL)
- GA>40W
- SHORT IPI <6 MONTHS
- MALPRESENTATION
- TWINS PREGNANCY
- OBSTRUCTED LABOR
- POIYHYDRAMNIOS

MANIFESTATION

- ABNORMAL FHR 70%
- SUDDEN ONSET OF ABDOMINAL PAIN
- VAGINAL BLEEDING
- LOSS OF STATION OF THE FETAL PRESENTING PART
- HEMATURIA
- HEMODYNAMIC INSTABILITY
- CHEST PAIN
- LOSS OF UTERINE TONE

MANAGEMENT

- UNSTABLE PATIENTS SHOULD BE STABILIZED
- CS
- NOTIFY THE ANESTHESIA AND NEONATOLOGY TEAMS
- MIDLINE INCISION IF HEMOPERITONEUM
- MEDIAL RUPTURES THAT DON'T INVOLVE THE ADNEXAL VASCULATURE CAN OFTEN BE REPAIRED BY PRIMARY CLOSE
- LATER RUPTURES & VERY LARGE RUPTURES REQUIRE LIGATION OF THE ADNEXAL VASCULATURE &OFTEN HYSTERECTOMY

OUTCOME

- **MATERNAL:**

THE MATERNAL MORTALITY RATE IS 0.2%

BLOOD TRANSFUSION

BLADDER INJURY

HYSTERECTOMY

- **FETAL:**
- THE PERINATAL MORTALITY RATE IS 5%
- DEATH MOST LIKELY OCCURS IF PLACENTAL SEPARATION OR BFETAL EXTRUSION
- IF FETAL EXTRUSION INTO THE ABDOMINAL CAVITY THE CHANCES OF FETAL SURVIVAL IS 25-50%

- IF PRIOR UTERINE RUPTURE (CS AT 36-37W)
- IF PRIOR UTERINE DEHISCENCE (CS AT 37-38W)

Thank you