

Uterine rupture by Laminaria tent in un-safe abortion

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Abstract

Most un-safe abortions occur where abortion is illegal, or in developing countries where affordable, well-trained medical practitioners are not readily available, or where the modern contraceptive are unavailable. It is one of the significant causes of maternal mortality and morbidity in Pakistan, un-trained "Dai" (quack) performed this procedure by various herbal abortifacients. Tertiary care centers in Karachi offend received morbidly complicated cases of induced abortion like perforation, sepsis, or severe hemorrhage. One such case is presented in which uterus was rupture due to multiple perforation by laminaria tent.

Keywords: Unsafe abortion, Laminaria tent, Perforation/ rupture of uterus.

Introduction:

Abortion has a long history and has been induced by various methods including herbal abortifacients, the use of a sharpen tool, physical trauma and other traditional method (laminaria tent) (Figure-1). Unsafe abortion often occurs where abortion is illegal.¹ In addition, a lack of access to safe and effective contraception contributes to unsafe abortion². It is a major cause of injury and death among women worldwide result in estimating 70,000 deaths and 5 million disabilities per years globally³.

Case Report:

A 24 years old female presented on 1st May 2011 at Hamdard University Hospital. She was an unmarried girl with no known co-morbid, she gave the history of severe abdominal pain, distention and bleeding per vaginum. On detail history, it was found that she had a gestational amenorrhea of 20-22 weeks and had induced abortion same day in the morning at a nearby clinic by inserting Laminaria Tent. She had no past medical and surgical history. Her family history was not significant.

On examination she was a young girl of average height and thin built with pallor, anxious look.

On vitals blood pressure was 100/60 mmHg, pulse is 138 per minute, temperature was 99°F, respiratory rate 30 beats per minute. On abdominal examination abdomen was generally distended and severe tenderness present in lower abdominal region. On speculum examination vaginal pack was present mildly soaked with blood. After removal of pack multiple threads were coming out of the cervix along with the Laminaria sticks, and no active vaginal bleeding.

Investigation showed that her hemoglobin was 10.6g per dl, total leucocytes count was 13,000 per Cu mm, platelets count is 17,7000, prothrombin time 16/14, APTT 36/36. X-ray abdomen was done showed fetal spine and air fluid level (Figure 2 &3). Ultra sound pelvis was done which revealed enlarge and bulky uterus, thick Echogenic foci are seen in the lower uterine cavity and cervical canal suggesting RPCOs and bubbles. Mild to moderate fluid (free) was seen in the posterior cul-de-sac around uterus and pelvis extending up to Morrison's pouch. Echogenic areas in it could represent clots appearance suggests ruptured uterus. Both ovaries are Echogenically normal.

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Figure 1: Laminaria Tents



Figure 2: X-ray of Iliacus & Foetus

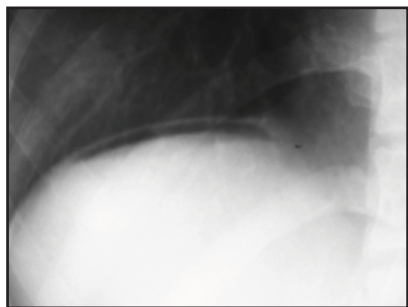


Figure 3: Air under Diaphragm



Figure 4: Foetus

She underwent emergency laparotomy; operative finding revealed that approximately 1 liter of blood stained serous fluid present in abdominal cavity. Foetus was present in peritoneal cavity along with the placental tissues (Figure 4). Three Laminaria tents perforated through the posterior wall of uterus about 5 cm, transverse tear present posterior on the body of the uterus. The projecting tip of all three Laminaria Tent were also damaged the serosal layer of sigmoid colon and posterior parietal peritoneum. Transverse tear of uterus was repaired by gynecologist and tear of serosal layer of colon and posterior parietal peritoneum were repaired by surgical colleague. Drain was inserted, during surgery patient collapsed 2 pints of whole blood and 3 haemaccel transfused and patient shifted to ICU. In ICU she transfused FFP blood & on 4th post operative date she developed ARDS and was unable to maintain oxygen saturation X-ray chest showed pleural effusion which was tapped she recovered slowly by continuous oxygen in halation and broad spectrum antibiotic.

Discussion:

The legality, prevalence, cultural status, and religious status of abortion vary substantially around the world. The WHO reports the world

that each year nearly 42 million faced with unintended pregnancies have abortions, of which 20 million are unsafe, mostly in countries where abortion is illegal. According to WHO and Guttmacher, approximately 68,000 women die annually as a result of complication of unsafe abortion and 2 - 7 million women each year survived unsafe abortion and sustained long term damage or diseased (incomplete abortion, infection [sepsis], hemorrhage and injury to the internal organs, such as puncturing and tearing of uterus). The WHO reports that in developed region nearly all abortions (92%) are safe, whereas in the developing countries more than half (55%) are unsafe⁴.

Concerning the gestational age incidence of major complication is highest is after 20 weeks of gestation and lowest before 8 week⁵. With more advance gestation there is a highest risk of uterine perforation and retained product of conception⁶. Women seeking to terminate their pregnancies some time resort to unsafe methods particularly when access to legal abortion is restricted. About one in eight pregnancy related death worldwide is associated with unsafe abortion⁷.

Laminaria has been used traditionally as hygroscopic (readily absorb water) cervical dilator and inducer of abortion. Laminaria; a genus of known algae commonly known as 'keep' is found primarily in the cold water of North Atlantic and North Pacific Oceans⁸. Laminaria for cervical dilatation used in form of tent, made from dried stems of Laminaria sea-weeds. When dried and rounded into a stick-like shape, the dilators are approximately 6cm (2.5 inches) long with a diameter of 0.3 to 0.5 cm. A strong thread is attached to one end and a collar prevents migration into the uterus. The stem is hygroscopic and can swell 3 to 5 times of its original diameter within 12 to 24 hrs.

These tents fell into disuse because of complication caused by infections; this was especially evident in tents derived land plants because of inability of sterilization to inactivate clostridium spores, causative agents of tetanus, botu-

lism and gas gangrene. The potential exists for adverse outcome with Laminaria dilator use especially infectious morbidity endometritis, fetal sepsis, septic shock and anaphylaxis have been reported^{9,10,11,12}. Sulfated polysaccharides from marine Laminaria cichoroides exert anticoagulant activity similar to that of heparin but clinical relevance is unclear^{13,14}. There is also a risk of Laminaria dilator becoming trapped and fragmenting¹⁵. There gradual effect of Laminaria tent is softening and dilating the cervix reduces the chance of stretch injury or perforation and could enhance completeness of evacuation of uterine cavity¹⁶, in contrast in this case the usual injury is the perforation/rupture of uterus. This injury is not due to swelling of Laminaria tent but it has made during forceful insertion of the Laminaria tent into the cervix. In another study the dilatation and evacuation procedures were performed in 28 (36%) women while a Laminaria tent prior to evacuation was used in 18 (36%) major complications included in uterine perforation and gastrointestinal injury observed in 27 (54%) women, hemorrhage was observed in 13 (26%) women with RPOC, 6 (12%) women died¹⁷.

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