

Available online at www.sciencedirect.com

ScienceDirect

journal homepage: www.elsevier.com/locate/mjafi

Case Report

An innovative method of retrieval of the broken suction cannula tip during medical termination of pregnancy using a fibrobronchoscope during the coronavirus disease 2019 pandemic



Kamalpreet Singh ^{a,*}, Binay Mitra ^b, Kanwarjit Singh ^c,
Awadhesh Kumar Mishra ^d, Ravi Singhal ^e

^a Classified Specialist (ENT), 166 Military Hospital, C/o 56 APO, India

^b Senior Advisor (Obst & Gynae), 166 Military Hospital, C/o 56 APO, India

^c Commandant, 166 Military Hospital, C/o 56 APO, India

^d Professor & Head (ENT), Army College of Medical Sciences & Base Hospital, Delhi Cantt, India

^e Senior Advisor (Anaesthesia), 166 Military Hospital, C/o 56 APO, India

ARTICLE INFO

Article history:

Received 3 July 2020

Accepted 20 October 2020

Available online 23 February 2021

Keywords:

Fibrobronchoscope

Foreign body

Uterus

Hysteroscope

Karman cannula

ABSTRACT

The breaking of the tip of the 'Karman cannula' inside the uterine cavity while performing suction curettage for missed abortion is an extremely rare phenomenon. Ideally, such foreign bodies should be removed using a hysteroscope under direct vision. In the absence of a hysteroscope, retrieval may be attempted using retrieving forceps either under ultrasonographic guidance or blindly. A 26-year-old female patient presented as a case of missed abortion at 6 weeks of gestation and underwent suction and evacuation. The tip of the cannula broke during the procedure. Multiple attempts were made to retrieve the cannula tip using forceps under ultrasound guidance without success. The patient was planned to be shifted to a higher centre as the hysteroscope was not available at this centre. However, owing to travel restrictions and lockdown imposed for the coronavirus disease 2019 (COVID 2019) pandemic, the patient could not be transferred. An innovative method using the fibre optic bronchoscope was devised by the otorhinolaryngologist and gynaecologist, and the retained impacted cannula was safely removed from the left uterine cornu under vision.

© 2021 Director General, Armed Forces Medical Services. Published by Elsevier, a division of RELX India Pvt. Ltd. All rights reserved.

* Corresponding author.

E-mail address: kpsingh_81@yahoo.com (K. Singh).

<https://doi.org/10.1016/j.mjafi.2020.10.016>

0377-1237/© 2021 Director General, Armed Forces Medical Services. Published by Elsevier, a division of RELX India Pvt. Ltd. All rights reserved.

Introduction

Foreign objects in the genital tract are uncommon. Iatrogenic foreign bodies in the uterus are very rare and may include retained foetal parts, the tip of the curette, sutures and so on. Uterine foreign bodies can be removed using a hysteroscope under direct vision. In the absence of a hysteroscope, retrieval may be attempted using retrieving forceps either under ultrasonographic guidance or blindly. We report here a rare case of the retained broken tip of the 'Karman cannula' during a suction curettage and an innovative method of its removal during the coronavirus disease 2019 (COVID-19) pandemic when transfer of the patient to higher centres was not possible owing to lockdown restrictions.

Case report

A 26-year-old female patient primigravida with 6 weeks of gestation presented to this border static hospital with complaints of bleeding per vaginum and pain in the abdomen of one-week duration. Ultrasonography was suggestive of a single intrauterine foetus with no foetal cardiac activity. Diagnosis of missed abortion was established, and the patient underwent suction and evacuation until grating and gripping was felt all over the cannula. During the last part of the procedure, the tip of the 6-mm plastic 'Karman cannula' broke inside the uterus and was retained inside the uterine cavity. Removal was attempted using forceps without success. Ultrasonography revealed that the retained tip of the cannula was embedded in the left cornu of the uterus (Fig. 1). Removal under ultrasonographic guidance was attempted, and the attempt was unsuccessful. The patient was planned to be transferred to higher centres for hysteroscopic removal; however, she could not be transferred owing to lockdown travel restrictions. An innovative technique was devised for removal of the foreign body by the gynaecologist and the otorhinolaryngologist of the hospital. The patient was taken for foreign body removal under regional anaesthesia. Regional anaesthesia was preferred over general anaesthesia as it helps in early detection of fluid overload, hyponatremia and uterine perforation, all of which are known complications associated with the procedure. General anaesthesia also leads to more aerosol generation in the operation theatre, and the patient could not be tested for COVID-19 during this emergency

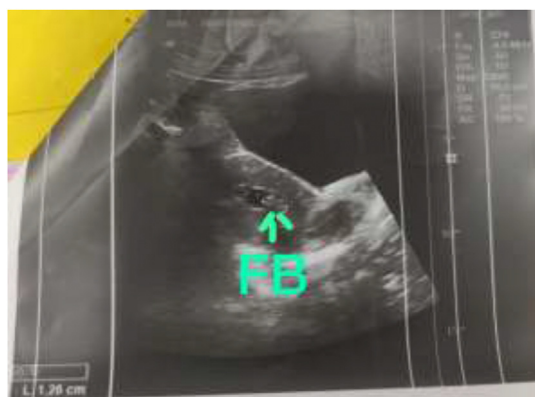


Fig. 1 – Ultrasound depicting retained foreign body (FB).

situation. Under spinal anaesthesia, the patient was placed in the lithotomy position, cleaned and draped. Cusco's speculum was introduced, and the cervix was visualised, which was held using the vulsellum. Dilatation of the cervix was performed using Hegar's dilator to gain entry into the uterus. The fibrobronchoscope having an insertion tube width of 6.4 mm, instrument channel width of 2.8 mm, insertion tube working length of 540 mm and field of view of 110° was used to retrieve the foreign body. Normal saline was used as a distension medium instilled through one of the ports of the fibrobronchoscope so that the vision was not hampered. The fibrobronchoscope was introduced via the dilated cervix, and normal saline was introduced through the side port of the scope. After distending the uterine cavity and manoeuvring the flexible tip of the fibrobronchoscope under direct vision, the team was able to visualise the broken tip of the 'Karman cannula' embedded in the left cornu of the uterus (Fig. 2). Using an alligator forceps with a working length of 120 cm and a diameter of 2.3 mm, the hollow part of the broken tip of the cannula was grasped and withdrawn along with the fibrobronchoscope until it was brought until the tip of the cervical os. The fibrobronchoscope along with forceps was then removed as resistance was being felt to remove the foreign body through the cervical os. Ovum forceps were again introduced, and the tip of the retained Karman cannula was grasped and finally removed via the vaginal cavity. The fibrobronchoscope was again introduced to check for any other remnant part of the cannula in the uterine cavity. There was no bleeding or laceration in the uterine walls. The patient was discharged from the hospital the next day without any complications.

Discussion

The literature describes various types of foreign bodies being removed from the uterus across all age groups. Foreign bodies in the uterus include contraceptive devices, tubal ligation clips, intrauterine devices, surgical packing and non-absorbable sutures.¹ In the mid-60s, in utero foreign bodies were removed using blind dilatation or removed using forceps. In rare cases, abdominal hysterectomy was sometimes required to be performed.² Verma et al³ and Roy et al⁴ reported removal of intrauterine foreign bodies such as retained intrauterine



Fig. 2 – Retained Karman cannula visualised in the uterine cavity using a fibrobronchoscope.

devices and a wooden stick under ultrasound guidance. Ultrasound has been found to be quite useful in locating misplaced intrauterine contraceptive devices and removal of other foreign bodies by many authors.⁵⁻⁸ Kumar et al.⁹ removed a broken tip of the Karman cannula using the hysteroscope. Yazicioglu et al.¹ removed the tip of the 'Karman's cannula' from the subvesical space using a hysteroscope. Removing the intrauterine foreign body under direct vision using a hysteroscope is better than removing it blindly or under ultrasonographic guidance. It also reduces the chances of injury to the surrounding structures. Conventional rigid hysteroscopy was first performed by Pantaleoni of Great Britain in 1869. The first fibrohysteroscope was invented after almost a century later in 1963 by Mohri and Mohri of Japan. Fibrohysteroscopy has improved in quality since then, owing to tremendous improvement of the optic fibres and quality of the high-definition camera and monitors. Almost all uterine foreign bodies can be removed using a hysteroscope. Rarely, with regard to foreign bodies deeply impacted inside the muscular uterine wall, the diagnosis by ultrasonography may be challenging. In such patients, 3D multiplanar computerised tomography can help in exact localisation of the uterine foreign body.¹⁰ To conclude, removal of foreign bodies in the uterus under direct vision using a hysteroscope is the standard of care these days. During a difficult situation, when resources were limited during the COVID-19 pandemic, we innovated a technique for removal of the foreign body in the uterus using a fibrobronchoscope under vision.

Disclosure of competing interest

The authors have none to declare.

REFERENCES

1. Yazicioglu HF, Yasar L, Dulger O. Hysteroscopic removal of a foreign body from the subvesical space. *Int J Obstet Gynecol.* 2004;86:48–49.
2. De Brux J, Palmer R, Ayoub-Despois H. Les ossifications de l'endometre. *Gynecol Obstet (Paris).* 1956;55:494–497.
3. Verma U, Astudillo-Davalos FE, Gerkowicz SA. Safe and cost-effective ultrasound guided removal of retained intrauterine device: our experience. *Contraception.* 2015 Feb 21;12:52–53.
4. Roy KK, Mittal S, Verma A. Removal of an intrauterine foreign body retained for 12 years. *Int J Obstet Gynecol.* 1996;54:185–186.
5. Elahi N, Koukab H. Diagnosis and management of lost intrauterine contraceptive device. *J Pakistan Med Assoc.* 2002;52:18–20.
6. Mizia K, Ramsay P. The effectiveness and safety of ultrasound-guided removal of a Mirena® intrauterine system when the strings are not visible and conventional office procedures have failed. *Aust N Z J Obstet Gynaecol.* 2013;53:386–388.
7. Balci O, Mahmoud AS, Capar M, Colakoglu MC. Diagnosis and management of intra-abdominal, mislocated intrauterine devices. *Arch Gynecol Obstet.* 2010;281:1019–1022.
8. Benacerraf BR, Shipp TD, Bromley B. Three dimensional ultrasound detection of abnormally located intrauterine contraceptive devices which are a source of pelvic pain and abnormal bleeding. *Ultrasound Obstet Gynecol.* 2009;34:110–115.
9. Kumar A, Kumar A. Broken tip of Karman cannula removed at hysteroscopy. *J Minim Invasive Gynecol.* 2014;21(4):537–538.
10. Mausner EV, Yitta S, Slywotzky CM, Bennett GL. Commonly encountered foreign bodies and devices in the female pelvis: MDCT appearances. *Am J Roentgenol.* 2011;196:W461–W470.