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Date: 12 Jun 2017

Database Search: Medline, Embase, CINAHL.

Hysterosalpingography (HSG) and Tubal Ligation

[See full search strategy](#)

1. Discordant relationship between Essure microinsert position and tubal occlusion.

Author(s): Hou, Melody Y

Source: BMJ case reports; Jul 2016; vol. 2016

Publication Date: Jul 2016

Publication Type(s): Case Reports Journal Article

Available in full text at [BMJ Case Reports](#) - from Highwire Press

Abstract: Hysteroscopic sterilisation with Essure requires confirmation of tubal occlusion by hysterosalpingogram or microinsert position by transvaginal sonography 3 months after placement before women can rely on the method for pregnancy prevention. A 39-year-old woman underwent hysteroscopic sterilisation via Essure, with successful bilateral tubal occlusion documented on hysterosalpingogram. She had a subsequent unintended pregnancy and termination, and presented with persistent pelvic pain and other non-specific symptoms. She underwent a laparoscopic-assisted vaginal hysterectomy with bilateral salpingectomy, with complete resolution of her symptoms. Pathological evaluation demonstrated a perforated Essure microinsert and ipsilateral tubal occlusion, and a correctly placed Essure microinsert with ipsilateral tubal patency. Clinicians should be cautious about the assumption that correctly placed microinserts based on ultrasonography, hysterosalpingogram or laparoscopic evaluation assures occlusion success.

Database: Medline

2. Radiological assessment of placement of the hysteroscopically inserted Essure permanent birth control device.

Author(s): Lorente Ramos, R M; Azpeitia Armán, J; Aparicio Rodríguez-Miñón, P; Salazar Arquero, F J; Albillos Merino, J C

Source: Radiologia; 2015; vol. 57 (no. 3); p. 193-200

Publication Date: 2015

Publication Type(s): Journal Article

Abstract:Essure is a permanent birth control device that is inserted through the cervix by hysteroscopy. The device is placed in the fallopian tubes, where it causes occlusion by stimulating fibrosis. Patients can be followed up with plain-film X-rays, hysterosalpingography, and ultrasonography, although the devices can also be identified incidentally on CT and MRI. The follow-up of Essure is based on checking the criteria for appropriate positioning and correct functioning (tubal occlusion) and on diagnosing complications. The most common complications are perforation, migration (toward the uterine or peritoneal cavity), and occlusion failure. In hysterosalpingography, vascular intravasation is the most common cause of diagnostic error. Radiologists need to know how to recognize the device on different imaging techniques, how to check that it is correctly placed and functioning, and how to diagnose complications.

Database: Medline

3. Hysteroscopy and contraception

Author(s): Veersema S.

Source: Best Practice and Research: Clinical Obstetrics and Gynaecology; Oct 2015; vol. 29 (no. 7); p. 940-950

Publication Date: Oct 2015

Publication Type(s): Article

Abstract:The Essure method is the only available hysteroscopic sterilisation method. A 4-cm device is placed in the fallopian tubes, which then induces an inflammatory reaction that causes occlusion. The method has a high successful placement rate and high effectiveness, and it can be performed in an office setting without anaesthesia. Three months after the procedure, a confirmation test has to be conducted to assure a correct position of the micro-inserts and tubal occlusion. This test can be performed by hysterosalpingography (HSG), plain X-ray or ultrasound. Pregnancies reported after Essure sterilisation are, in a majority, related to non-adherence to the follow-up protocol or misreading of the confirmation test. A majority of the pregnancies occurred after HSGs that were determined to have been misinterpreted, including missed expulsion or perforation of the micro-insert. Other complications such as ectopic pregnancy and allergic reaction to the micro-inserts seem to have been described to be of low incidence. Copyright © 2015 Elsevier Ltd. All rights reserved.

Database: EMBASE

4. Hysterosalpingography After Radiofrequency Endometrial Ablation and Hysteroscopic Sterilization as a Concomitant Procedure.

Author(s): Hopkins, Matthew R; Laughlin-Tommaso, Shannon K; Wall, Darci J; Breitkopf, Daniel M; Creedon, Douglas J; El-Nashar, Sherif A; Famuyide, Abimbola O

Source: Obstetrics and gynecology; Sep 2015; vol. 126 (no. 3); p. 628-634

Publication Date: Sep 2015

Publication Type(s): Comparative Study Journal Article

Available in print at [Patricia Bowen Library and Knowledge Service West Middlesex university Hospital](#) - from Obstetrics and Gynecology

Available in full text at [Obstetrics and Gynecology](#) - from Ovid

Abstract:OBJECTIVE To evaluate the accuracy of hysterosalpingography (HSG) in patients who underwent concomitant radiofrequency endometrial ablation and hysteroscopic sterilization.METHODS This historical cohort study was conducted at a midwestern academic medical center. A total of 186 women (94 with combined procedure and 92 with sterilization alone) were identified as having undergone intervention between January 1, 2003, and June 30, 2011. Two reviewers blinded to the surgical procedure interpreted the standard clinically indicated HSGs in each group.RESULTSThe primary outcome assessed was the inability to rely on the microinserts for contraception based on HSG interpretation using manufacturers' guidelines (unsatisfactory HSG). Position of the devices and occlusion of tubes were assessed on all 3-month and, when available, all 6-month repeat HSGs. At the 3-month HSG, 5 of 76 (6.6%, 95% confidence interval [CI] 2.2-14.7%) in the sterilization-only group had unsatisfactory HSG compared with 13 of 71 (18.3%, 95% CI 10.1-29.3%) in the combined group ($P=.03$). After accounting for the seven patients who underwent repeat HSG at 6 months, 3 of 76 (3.95%, 95% CI 0.8-11.1%) in the sterilization-only group had unsatisfactory HSG compared with 13 of 71 (18.31%, 95% CI 10.1-29.3%) in the combined group ($P=.005$).CONCLUSIONAfter completing all clinically indicated HSGs, patients who undergo concomitant radiofrequency endometrial ablation and hysteroscopic sterilization have an approximate fivefold increase (odds ratio 5.45, 95% CI 1.48-20.0) in the rate of unsatisfactory HSG for purposes of documenting tubal occlusion.LEVEL OF EVIDENCEII.

Database: Medline

5. Diagnostic accuracy of hysterosalpingo-foam-sonography to confirm tubal occlusion after Essure® placement as treatment for hydrosalpinges.

Author(s): Dreyer, Kim; Hompes, Peter G A; Mijatovic, Velja

Source: Reproductive biomedicine online; Apr 2015; vol. 30 (no. 4); p. 421-425

Publication Date: Apr 2015

Publication Type(s): Journal Article

Abstract:Consensus globally is that hydrosalpinges need to be treated before IVF owing to their negative influence on outcomes. The current standard treatment is laparoscopic salpingectomy. A potential less invasive treatment is proximal occlusion of a hydrosalpinx by hysteroscopic placement of an Essure® device. Tubal occlusion after Essure® placement needs to be verified by hysterosalpingography (HSG). However, this is a painful examination, that exposes patients to radiation. Hysterosalpingo-foam sonography (HyFoSy) is a less invasive alternative test to confirm proximal tubal occlusion. This prospective diagnostic accuracy study evaluated if HyFoSy is as accurate as HSG to confirm proximal tubal occlusion after placement of an Essure® device as treatment for a hydrosalpinx before IVF. Thirty-eight treated hydrosalpinges in 26 women were evaluated. Proximal occlusion was verified by HyFoSy (index test) and HSG (standard reference). The accuracy of HyFoSy was 97.4% (95% CI 92.3% to 100.0%). Sensitivity and specificity were 97.1% (95% CI 84.6% to 99.5%) and 100.0% (95% CI 40.2% to 100.0%), respectively. After an Essure® device is placed as treatment for a hydrosalpinx before IVF, HyFoSy is as able as HSG to confirm proximal tubal occlusion. If HyFoSy demonstrates tubal patency, a subsequent HSG needs to be carried out to validate this finding.

Database: Medline

6. Efficacy of essure hysteroscopic sterilisation

Author(s): Rosic M.; Zegura B.; Vadjal Donlagic S.

Source: Gynecological Surgery; Sep 2014; vol. 11 (no. 1); p. 218-219

Publication Date: Sep 2014

Publication Type(s): Conference Abstract

Available in full text at [Gynecological Surgery](#) - from ProQuest

Available in full text at [Gynecological Surgery](#) - from Springer Link Journals

Abstract:Objectives Essure is a female transcervical sterilization procedure. 3 months after the procedure a confirmation test is performed to evaluate microinsert location or tubal occlusion. During this period the tubal lumen is occluded by benign tissue ingrowth stimulated by the microinsert. More than 50 procedures are performed in University Medical Centre Maribor every year. The objective of our study was to evaluate efficacy of the procedure. Methods 100 consecutive patients were included in a prospective study. All procedures were performed between August 2012 and January 2014 by the same experienced hysteroscopist in an outpatient setting. 3 months after the procedure transvaginal 2D ultrasound was performed to assess the microinsert position, which was defined as correct, indeterminate or incorrect. In cases with indeterminate or incorrect microinsert position, tubal patency test was performed. Hysterosalpingo Foam Sonography (HyFoSy) was performed in the same setting in 7 cases with indeterminate and in 1 case with incorrect microinsert position. Hysterosalpingography (HSG) was performed in 2 cases with indeterminate microinsert position. Results 100 patients with 198 Fallopian tubes were included. In 4 patients sterilisation wasn't attempted due to pain or technical difficulties at hysteroscopy. Essure microinsert was successfully placed in 190 Fallopian tubes in 96 patients (96,0%). Transvaginal ultrasound demonstrated a correct placement of 180 microinserts (180/190, 94,7%). Tubal occlusion

was confirmed in 8 of 9 cases with indeterminate microinsert position and in 1 case with incorrect microinsert position. No complications were reported during HyFoSy or HSG. In a patient with patent Fallopian tube laparoscopy was performed due to suspicion of microinsert migration; migration was not confirmed and laparoscopic salpingectomy was performed. Almost all patients (95/96, 99,0%) could rely on Essure for pregnancy prevention. Conclusions Essure is a method for permanent female contraception that has a very high rate of success, is well tolerated and has a low rate of complications. In cases of indeterminate or incorrect position of microinserts on transvaginal ultrasound, HyFoSy could be an alternative to HSG.

Database: EMBASE

7. Post-essure pregnancy-a rare complication: Report of 2 clinical cases

Author(s): Sampaio J.; Sarmiento-Goncalves I.; Barros J.; Malafaia S.; Rebelo C.; Silva P.T.

Source: Gynecological Surgery; Sep 2014; vol. 11 (no. 1); p. 232-233

Publication Date: Sep 2014

Publication Type(s): Conference Abstract

Available in full text at [Gynecological Surgery](#) - from ProQuest

Available in full text at [Gynecological Surgery](#) - from Springer Link Journals

Abstract: Objectives To report 2 clinical cases of post- Essure pregnancies. Methods Literature review. Retrospective analysis of 306 hysteroscopic procedures performed in our institution between 2005 and 2013. Results Clinical Reports: - 34 years, irrelevant medical history, IIGIIP, desire of permanent sterilization. Submitted to Essure with difficulty in the progression of the right coil. X-ray inconclusive after 1 month. Bilateral tubal occlusion was documented on the 3-months HSG. Spontaneous pregnancy documented 1 year after the procedure. - 36 years, erythema nodosum, IIIIGIIP, desire of permanent sterilization. Essure procedure performed without complications. X-ray inconclusive after 3 months. Pelvic ultrasound revealed correctly placed micro-inserts. Spontaneous pregnancy documented after 6 months. We performed pregnancy termination followed by laparoscopic tubal ligation, as patients wish. During the laparoscopy we recognized inserts malposition (intramyometrial). Conclusions The Essure is a hysteroscopic sterilization procedure, approved since 2002 by the FDA, in which a dynamically expanding micro-insert is placed in the proximal section of the fallopian tube. The insertion of the coils promotes a benign localized tissue-in-growth resulting in occlusion of the tubal lumen in 96% of the cases after three months and a 5 year rate of effectiveness of 99,74%. The 5- year cumulative pregnancy rate is about 2.6 per 1,000 procedures. A 3-month hysterosalpingogram (HSG) is still the goldstandard to assess the placement of the micro-inserts and tubal occlusion with a specificity of 95%. When other methods are used the pregnancy rate slightly increases (as ultrasound or x-ray). Hysteroscopic tubal occlusion is presented as a safe, effective and minimally invasive procedure that has been gaining popularity. The main causes of failure are related to malposition of the inserts and incorrect follow-up protocols. The interpretation of imaging techniques used for confirming adequate positioning of the inserts can be difficult and may lead to erroneous conclusions. This is true especially when one of the devices is in an intramural position or when perforation occurs near tubal ostia, what may have happened in the cases described above.

Database: EMBASE

8. Essure insert expulsion after 3-month hysterosalpingogram confirmation of bilateral tubal occlusion and bilateral correct placement: case report.

Author(s): Garcia, Amy L; Lewis, Rae M; Sloan, Anita Lee

Source: Journal of minimally invasive gynecology; 2013; vol. 20 (no. 1); p. 107-111

Publication Date: 2013

Publication Type(s): Case Reports Journal Article

Abstract: Essure hysteroscopic sterilization is an effective permanent contraception option for women, with a 99.83% effectiveness rate. To date, more than 600,000 Essure procedures have been performed worldwide. This case report describes bilateral Essure insert placement, after which the left insert was subsequently expelled after hysterosalpingogram (HSG)-confirmed correct bilateral insert placement and bilateral tubal occlusion. Although insert expulsion has been reported before a 3-month post-procedure HSG, this is the first published report of expulsion after a confirmatory 3-month post-procedure HSG. Because there now exists documentation of Essure insert expulsion after a 3-month confirmatory HSG, physicians and patients should be informed of this rare occurrence. Further investigation into the causes of such an event is warranted.

Database: Medline

9. Ectopic pregnancy after hysteroscopic tubal occlusion confirmed by hysterosalpingogram: a case report.

Author(s): Huguelet, Patricia

Source: The Journal of reproductive medicine; 2013; vol. 58 (no. 7-8); p. 337-340

Publication Date: 2013

Publication Type(s): Case Reports Journal Article

Abstract: BACKGROUND Even after demonstrated bilateral tubal occlusion during posthysteroscopic sterilization hysterosalpingogram (HSG), incorrect location of the micro-inserts can result in unplanned pregnancy and potential ectopic location. CASE More than 4 years after HSG-confirmed hysteroscopic tubal occlusion, a patient presented with pelvic both absence boh absence cy test. Surgical and pathologic evaluation ultimately revealed an ectopic pregnancy of likely cornual location. Review of her HSG confirmed bilateral tubal occlusion, but the location of one micro-insert was incorrect. CONCLUSION Ectopic pregnancy after HSG-confirmed tubal occlusion is a rare event. Necessary measures to prevent this from occurring include not only confirmation of bilateral tubal occlusion, but also recognition of correct location of the micro-insert within the lumen of the fallopian tube. If the postprocedure HSG demonstrates incorrect micro-insert position, even in the absence of tubal dye spill, the patient cannot rely on this method for sterilization.

Database: Medline

10. Venous intravasation: a potential pitfall of confirmatory hysterosalpingogram following essure hysteroscopic sterilization.

Author(s): Chang, Michael C; Shim, John J

Source: Journal of radiology case reports; Sep 2012; vol. 6 (no. 9); p. 18-22

Publication Date: Sep 2012

Publication Type(s): Case Reports Journal Article

Available in full text at [Journal of Radiology Case Reports](#) - from National Library of Medicine

Abstract:Indications for hysterosalpingography (HSG) include evaluation of infertility, spontaneous abortions, postoperative evaluation of tubal ligation, pre-myomectomy evaluation, and more recently, evaluation of tubal occlusion after placement of the Essure Permanent Birth Control System. Here we report a case of venous intravasation during a routine post-Essure HSG, a phenomenon in which contrast transits from the uterine cavity, through the myometrium, and directly into draining pelvic veins. Venous intravasation is a potential pitfall in interpretation of HSGs.

Database: Medline

11.Pregnancy after tubal sterilization with essure device

Author(s): Marcos Gonzalez V.; Del Valle Rubido C.; Heras Sedano I.; Solano Calvo J.A.; Delgado Espeja J.J.; Cajal Lostao R.; Zapico Goni A.

Source: Gynecological Surgery; Sep 2012; vol. 9 (no. 1)

Publication Date: Sep 2012

Publication Type(s): Conference Abstract

Available in full text at [Gynecological Surgery](#) - from ProQuest

Available in full text at [Gynecological Surgery](#) - from Springer Link Journals

Abstract:A woman who was sterilised with Essure device became pregnant despite having tubal occlusion confirmed by hysterosalpingography Introduction: Tubal sterilization with Essure device is highly effective. However, there are cases of failure after its execution Material and Methods: We have performed a systematic review of our patient's medical record Results: A 33-year-old woman had bilateral tubal occlusion with Essure by hysteroscopy at Hospital Principe de Asturias, following the normal procedure (alternative contraception before and after the insertion). The insertion had no incidents, leaving 3 visible spirals at the right ostium and 4 at the left one. She was on the 26th day of cycle. Three months afterwards the patient was pregnant with her last menstrual period in the same cycle of the procedure. She had a voluntary interruption of pregnancy outside our hospital. During her follow-up we conducted 2D and 3D ultrasound which showed normal placement of the devices (by Legendre's classification). She underwent hysterosalpingography 4 months post-insertion showing non-permeable tubes, and was discharged. Seven months afterwards the patient became pregnant again Discussion: Hysterosalpingography is the gold-standard technique to evaluate tubal permeability. Non-fulfillment of alternative contraception may explain the first pregnancy. However, the reason of her second pregnancy is still unknown. Our patient became pregnant with normal imaging techniques and hysterosalpingography.

Database: EMBASE

12. Is 3D ultrasound enough to control placement of essure device and confirm permanent tubal sterilization?

Author(s): Solano Calvo J.A.; Garcia Briz H.; Del Valle Rubido C.; Gonzalez Hinojosa J.; Juez P.; Zapico Goni A.; Delgado Espeja J.J.

Source: Gynecological Surgery; Sep 2012; vol. 9 (no. 1)

Publication Date: Sep 2012

Publication Type(s): Conference Abstract

Available in full text at [Gynecological Surgery](#) - from ProQuest

Available in full text at [Gynecological Surgery](#) - from Springer Link Journals

Abstract:It is necessary to perform hysterosalpingography to all patients undergoing hysteroscopic tubal sterilization with Essure, as 3D ultrasound is not able to predict tubal occlusion. Introduction: Our objective is to find the relation between the number of spirals left in the uterine cavity and the length of the intracavitary devices measured by 3D ultrasound and the presence or absence of contrast in hysterosalpingography (HSG). Material and Methods: Observational prospective study of 53 women sterilized by insertion of Essure intratubal device by hysteroscopy. 3 months post-insertion they underwent 3D ultrasound to confirm the correct placement of the devices. The intracavitary component of the devices was measured and they were classified following Legendre's classification. HSG was performed to confirm permanent tubal occlusion. Results: 60.71 % of cases were classified as perfect, 25 % distal, 7.24 % proximal and 7.14 % very distal, following Legendre's criteria. We were not able to relate the number of spirals to the intracavitary length, due to the low number of cases (Rho Spearman), as well as the device placement and HSG. The 2 cases of bilateral tubal permeability had a perfect placement. Discussion: Despite having to increase the number of cases of our study, because of the absence of relation between tubal definitive occlusion and the position of Essure devices in 3D ultrasound, it is necessary to perform HSG to all patients.

Database: EMBASE

13. Necessity of hysterosalpingography after Essure microinsert placement for contraception.

Author(s): Lazarus, Elizabeth; Lourenco, Ana P; Casper, Susan; Allen, Rebecca H

Source: AJR. American journal of roentgenology; Jun 2012; vol. 198 (no. 6); p. 1460-1463

Publication Date: Jun 2012

Publication Type(s): Journal Article

Available in full text at [American Journal of Roentgenology](#) - from Free Access Content

Abstract:OBJECTIVEThe objective of our study was to determine whether hysterosalpingography is necessary after Essure microinsert placement by evaluating the rates of appropriate placement and of satisfactory tubal occlusion in a general population.MATERIALS AND METHODSThe study identified all patients who underwent hysterosalpingography after Essure microinsert placement for desired sterility between January 1, 2008, and August 1, 2010. We recorded demographic information and the hysterosalpingographic results. The images and operative reports of all cases with abnormal hysterosalpingographic findings were reviewed. The hysterosalpingographic results were reviewed for appropriate placement of the microinsert, for successful tubal occlusion, and for any additional abnormalities. We also reviewed the medical records for documentation of subsequent pregnancies.RESULTSTwo hundred forty hysterosalpingographic examinations were performed after 237 hysteroscopic microinsert placement procedures in 235 women. The mean age of the subjects was 35 years (range, 20-50 years). Twenty-two examinations (9.2%) were abnormal. Fourteen (5.8%) revealed inappropriate placement: six with tubal occlusion, seven without tubal occlusion, and one with an indeterminate finding for tubal occlusion. Fifteen examinations (6.3%) showed tubal

nonocclusion: Microinsert placement was inappropriate in seven cases and appropriate in eight. Of the 22 abnormal hysterosalpingographic examinations, 20 had operative reports available. Eleven (55%) described difficulties with device insertion. Forty-two endometrial abnormalities were described in hysterosalpingographic reports of 38 patients. One subsequent pregnancy was documented in a patient with satisfactory device placement and tubal occlusion on hysterosalpingography. **CONCLUSION** Hysterosalpingography after Essure microinsert placement is necessary because 6.3% of examinations showed abnormalities requiring an alternative form of contraception.

Database: Medline

14. Imaging after minimally invasive methods of sterilization: The essential facts for radiologists

Author(s): Olaribigbe I.; Davis B.; Smith K.; Cooke-Sampson E.; Duerinckx A.

Source: American Journal of Roentgenology; May 2012; vol. 198 (no. 5)

Publication Date: May 2012

Publication Type(s): Conference Abstract

Available in full text at [American Journal of Roentgenology](#) - from Free Access Content

Abstract:Background Information: Newly developed minimally invasive hysteroscopic techniques are quickly becoming the preferred form of sterilization in women. The lack of anesthesia, low failure rate, noninvasive approach and outpatient availability render these procedures as an attractive alternative to the more commonly employed method of tubal ligation. Following these procedures, a hysterosalpingogram (HSG) is performed to assess tubal occlusion. Proper interpretation of the HSG is imperative to determine a successful outcome. Educational Goals/Teaching Points: In this exhibit, we review current hysteroscopic sterilization techniques that use polymer plugs or titanium microinserts, some of which have recently been approved by the U.S. Food and Drug Administration; basic imaging features of an HSG, including normal postprocedural findings; and abnormal findings on postprocedural HSGs including the lack of tubal occlusion and the abnormal relationship of the microinserts to the uterotubal junction. After viewing the exhibit, the participant will understand the clinical impact of postprocedural imaging on patient management as it relates to compliance. Key Anatomic/Physiologic Issues and Imaging Findings/Techniques: The normal appearance of the opacified uterus and fallopian tubes will be shown on HSG images. HSGs will also show nonopacification of the fallopian tubes (success) and/or abnormal relationships of the microinserts to the uterotubal junction (satisfactory/unsatisfactory) on postprocedural studies. Conclusion: Minimally invasive hysteroscopic techniques are quickly becoming the preferred form of sterilization in women. Postprocedural HSGs are an integral part of this procedure. Evaluating imaging findings on HSGs is critical to a successful outcome.

Database: EMBASE

15. 3D ultrasound to assess the position of tubal sterilization microinserts

Author(s): Legendre G.; Levailant J.-M.; Faivre E.; Deffieux X.; Gervaise A.; Fernandez H.

Source: Human Reproduction; Oct 2011; vol. 26 (no. 10); p. 2683-2689

Publication Date: Oct 2011

Publication Type(s): Article

Available in full text at [Human Reproduction](#) - from Oxford University Press ; Collection notes: To access please select Login with Athens and search and select NHS England as your institution before entering your NHS OpenAthens account details.

Available in full text at [Human Reproduction](#) - from Highwire Press

Abstract:Background The aim of this study was to assess the diagnostic accuracy of three-dimensional ultrasound (3D-US) for determining the position of Essure microinserts and the success of sterilization by the Essure method. Methods This retrospective observational study examined the case records of 311 women who underwent hysteroscopic sterilization from October 2002 through October 2008. Imaging with 3D-US or pelvic X-radiography or both was performed 3 months after the procedure to verify device position. Hysterosalpingography (HSG) was performed when a bilateral procedure was not completed because of a history of salpingectomy or blocked tube, when doubt persisted after 3D-US or pelvic radiography, or for comparative purposes in a prospective study. The positions seen on 3D-US were classified in four categories according to a specific scale we devised. Results The insertion procedure was completed in 94.2 patients. Only 90.5 underwent imaging verification of the device 3 months afterwards. In all, 227 3D-US, 175 pelvic radiography and 64 HSG imaging procedures were performed. Visualization of the device was possible in 99.6 of the 3D-US images. According to our classification, 3D-US was appropriate for assessing device position for 195 (85.9) patients. The need for HSG confirmation was significantly lower with 3D-US than radiographic imaging (14.1 versus 26.8, $P = 0.001$). 3D-US examinations, compared with the results of HSG as the reference test, had a sensitivity of 100 and a specificity of 76.6. Neither pregnancy nor early expulsion occurred when 3D-US found that the devices were correctly placed. Conclusions 3D-US is a simple technique for assessing the position of Essure microinserts, even after concomitant endometrial surgery. The 3D-US classification presented here appears to make it possible to use HSG for back-up confirmation only when the microinsert is found in a very distal position on 3D-US and thus to protect the majority of women from the negative effects of pelvic radiography and HSG. © 2011 The Author.

Database: EMBASE

16. Hysterosalpingogram: An essential examination following Essure hysteroscopic sterilisation

Author(s): Shah V.; Williamson R.; Hemingway A.; Panay N.

Source: British Journal of Radiology; Sep 2011; vol. 84 (no. 1005); p. 805-812

Publication Date: Sep 2011

Publication Type(s): Article

Available in full text at [British Journal of Radiology](#) - from Free Access Content

Available in full text at [British Journal of Radiology, The](#) - from National Library of Medicine

Abstract: Objectives: The aim of this study was to describe our Experience of imaging following hysteroscopic sterilisation with the Essure (Conceptus Inc., Mountain View, San Carlos, CA) microinsert, and to underline the importance of a carefully performed follow-up hysterosalpingogram (HSG) in the management of these patients. Methods: 18 women underwent the procedure and all returned for follow-up HSG. A standard HSG technique was used and views were acquired to establish microinsert position and tubal occlusion. Results: In 16 of the 18 women, adequate microinsert positioning and bilateral tubal occlusion was present. In one woman, a unilateral microinsert occluded the fallopian tube, whereas the other fallopian tube was ligated with a clip. The final patient underwent two studies; both showed well-positioned microinserts but unilateral free spill from the right fallopian tube. There are no reported pregnancies thus far. Conclusion: Essure sterilisation coils have a unique appearance when radiographed and are an effective means of permanently occluding the fallopian tubes. HSG is a rapid and safe method of confirming satisfactory placement and tubal occlusion. Non-HSG imaging techniques are suboptimal at detecting patent fallopian tubes and expose patients to the risk of an unwanted and potentially complicated pregnancy. © 2011 The British Institute of Radiology.

Database: EMBASE

17. Clinical experience with contrast infusion sonography as an Essure confirmation test

Author(s): Connor V.F.

Source: Journal of ultrasound in medicine : official journal of the American Institute of Ultrasound in Medicine; Jun 2011; vol. 30 (no. 6); p. 803-808

Publication Date: Jun 2011

Publication Type(s): Article

Abstract: The purpose of this study was to assess the clinical experience, including the feasibility, safety, compliance, and efficacy, of contrast infusion sonography as an Essure (Conceptus Inc, Mountain View, CA) confirmation test. A retrospective chart review and telephone survey were conducted at an academic multispecialty group. The study participants were women with Essure intervention who underwent contrast infusion sonography, transvaginal sonography, and hysterosalpingography as Essure confirmation tests. The main outcome measures included the feasibility, safety, compliance, and efficacy of contrast infusion sonography as a first-line Essure confirmation test. A total of 118 women had successful bilateral Essure placement. Of the 63 who consented to contrast infusion sonography, 53 (84.1%) had proper bilateral placement and tubal occlusion and were encouraged to rely on Essure. Four were suspected of having unilateral tubal patency; hysterosalpingography in 2 confirmed bilateral tubal occlusion, and 2 were noncompliant with second-line hysterosalpingography. Three patients suspected of having unsatisfactory or uncertain placement on initial transvaginal sonography were encouraged to undergo hysterosalpingography in lieu of contrast infusion sonography, which confirmed unsatisfactory placement in 2 and proper placement and occlusion in 1. Three contrast infusion sonographic procedures could not be completed because of technical issues; therefore, contrast infusion

sonography was feasible in 95.2% of the patients (60 of 63). No notable adverse events occurred. Only 17 patients were noncompliant with any confirmation test, yielding an overall compliance rate of 86% (101 of 118). No pregnancies occurred during 669 woman-months of follow-up. The average reimbursement for contrast infusion sonography was US\$251.78. Preliminary clinical data suggest that contrast infusion sonography is a feasible, safe, and accurate Essure confirmation test, which is well accepted by patients.

Database: EMBASE

18. Essure transcervical tubal sterilization: a 5-year x-ray follow up.

Author(s): Franchini, Mario; Boeri, Cecilia; Calzolari, Stefano; Imperatore, Alberto; Cianferoni, Luciano; Litta, Pietro; Giarrè, Giovanna; Zerbetto, Irene; Moncini, Irene; Florio, Pasquale

Source: Fertility and sterility; May 2011; vol. 95 (no. 6); p. 2114-2115

Publication Date: May 2011

Publication Type(s): Controlled Clinical Trial Journal Article

Abstract:OBJECTIVETo evaluate the x-ray appearance of Essure microinserts 5 years after their insertion.DESIGNProspective controlled study.SETTINGTertiary referral centers for gynecologic care.PATIENT(S)Forty-five consecutive women with successful hysteroscopic bilateral placement of the Essure devices and postprocedure satisfactory hysterosalpingography confirmation test.INTERVENTION(S)Pelvic anteroposterior x-ray.MAIN OUTCOME MEASURE(S)Stability and symmetric appearance of Essure microinsert positions; measurement of the intrauterine distance between the two devices.RESULT(S)After 5 years from their placement, no detachment nor fracture of devices was observed. x-Ray recognition of the device after 5 years showed findings similar to those recorded at 3 months' follow-through hysterosalpingography.CONCLUSION(S)x-Ray evaluation of findings related to stability of position, symmetric appearance, and distance between the two Essure microinserts corroborates the irreversibility and the reliability of the fibrotic reaction that ensured tubal occlusion after devices placement.

Database: Medline

19. Imaging of the essure tubal occlusion device

Author(s): Simpson W.; Beitia L.

Source: American Journal of Roentgenology; May 2011; vol. 196 (no. 5)

Publication Date: May 2011

Publication Type(s): Conference Abstract

Available in full text at [American Journal of Roentgenology](#) - from Free Access Content

Abstract:Background Information: The Essure microinsert is a permanent contraceptive device approved by the Food and Drug Administration in 2002. It is placed hysteroscopically into the fallopian tubes during an office procedure. Unlike tubal ligation, it is relatively noninvasive and does not require anesthesia. A hysterosalpingogram (HSG) is required 3 months after placement to document tubal occlusion. Although HSG is the imaging examination most commonly used for evaluation after placement, as the device becomes more popular it will be encountered by radiologists in all modalities. Educational Goals/Teaching Points: To demonstrate the normal and abnormal HSG appearance of the Essure device after placement. Knowledge of the appearance and location of this relatively new device on imaging studies is needed for accurate interpretation. Key Anatomic/Physiologic Issues and Imaging Findings/Techniques: The following imaging manifestations of the Essure device will be provided and discussed: normal HSG appearance after successful placement; abnormal HSG appearance after placement; appearance on CT; and appearance on ultrasound. Conclusion: The Essure device is a relatively new permanent contraceptive device. Given the increasing prevalence of the device as it has become more popular with women over recent years, its imaging appearance should be familiar to radiologists who will increasingly encounter it on routine cross-sectional imaging studies. Knowledge of its expected appearance and location can prevent misinterpretation.

Database: EMBASE

20. Outcomes in the ultrasound follow-up of the Essure micro-insert: complications and proper placement.

Author(s): Thiel, John; Suchet, Ian; Tyson, Nerissa; Price, Pamela

Source: Journal of obstetrics and gynaecology Canada : JOGC = Journal d'obstetrique et gynecologie du Canada : JOGC; Feb 2011; vol. 33 (no. 2); p. 134-138

Publication Date: Feb 2011

Publication Type(s): Journal Article

Abstract:OBJECTIVETo review the use of three-dimensional ultrasound follow-up of the Essure micro-insert placement at three months for the identification of misplaced coils and complications.METHODSWe conducted a retrospective cohort study of reproductive age women requesting permanent sterilization in a tertiary care ambulatory women's clinic. Women who underwent placement of the Essure micro-insert were assessed for appropriate positioning of the Essure micro-insert coil using three-dimensional ultrasound as well as hysterosalpingography when indicated.RESULTSA total of 610 women who had undergone the Essure procedure with ultrasound follow-up at three months were retrospectively reviewed and in 524 (86%) the location and shape were both normal. The remaining 86 (15%) required hysterosalpingography to confirm proper placement, 34 because of a non-diagnostic ultrasound and the remaining 52 for a complication noted on ultrasound, including perforation, proximal or distal migration of the device, or device expulsion.CONCLUSIONUltrasound can be used at three months after Essure placement to identify normal placement as well as misplaced and perforated devices.

Database: Medline

21. Can hysterosalpingo-contrast sonography replace hysterosalpingography in confirming tubal blockage after hysteroscopic sterilization and in the evaluation of the uterus and tubes in infertile patients?

Author(s): Luciano D.E.; Luciano A.A.; Exacoustos C.; Johns D.A.

Source: American Journal of Obstetrics and Gynecology; Jan 2011; vol. 204 (no. 1); p. 79

Publication Date: Jan 2011

Publication Type(s): Article

Abstract:OBJECTIVE: The objective of the study was to assess the accuracy of hysterosalpingo-contrast sonography (HyCoSy) in establishing tubal patency or blockage and evaluating the uterine cavity by comparing it with hysteroscopy laparoscopy (HLC) or hysterosalpingography (HSG). STUDY DESIGN: This study was a chart review evaluating infertility patients and patients who had undergone hysteroscopic sterilization who underwent both HyCoSy and HLC or HyCoSy and HSG at private offices associated with university hospitals. Sensitivity, specificity, positive predictive value, and negative predictive value of HyCoSy were calculated. RESULTS: HyCoSy compared with HLC had a sensitivity of 97% and specificity of 82%, and HyCoSy compared with HSG was 100% concordant. Uterine cavities evaluated by sonohysterography and hysteroscopy were 100% concordant. CONCLUSION: HyCoSy is accurate in determining tubal patency and evaluating the uterine cavity, suggesting it could supplant HSG not only as the first-line diagnostic test in an infertility workup but also in confirming tubal blockage after hysteroscopic sterilization. © 2011 Mosby, Inc.

Database: EMBASE

22. Unintended pregnancy after long-term Essure microinserts placement.

Author(s): Arjona, José Eduardo; Serrano, Jose Julio; Povedano, Balbino; Carrasco, Santiago; Castelo-Branco, Camil

Source: Fertility and sterility; Dec 2010; vol. 94 (no. 7); p. 2793-2795

Publication Date: Dec 2010

Publication Type(s): Case Reports Journal Article

Abstract:A case of uterine perforation by an Essure microinserts placed in proximity to the tubal ostia mimicking proper microinsert placement and bilateral tubal occlusion on imaging techniques is presented. The presence of Essure microinserts did not interfere with implantation and pregnancy, and in this case, no adjacent intraabdominal tissue damage was caused by the misplaced device, which was finally removed almost 3 years after insertion.

Database: Medline

23. Assessment of three-dimensional ultrasound examination classification to check the position of the tubal sterilization microinsert

Author(s): Legendre G.; Gervaise A.; Levailant J.-M.; Faivre E.; Deffieux X.; Fernandez H.

Source: Fertility and Sterility; Dec 2010; vol. 94 (no. 7); p. 2732-2735

Publication Date: Dec 2010

Publication Type(s): Article

Abstract:Objective: To assess the accuracy of three-dimensional (3D) ultrasound to determine the position of Essure microinserts. Design: Prospective observational study. Setting: Gynecology department in a teaching hospital. Patient(s): Forty women who underwent hysteroscopic sterilization from March through October 2008. Intervention(s): Both 3D ultrasound and hysterosalpingography (HSG) were performed 3 months after the procedure to verify device position. Positions seen on 3D ultrasound were classified in four categories: a perfect position (1 + 2 + 3), a proximal position (1 + 2), a distal position (2 + 3), and a very distal position (3-only). Main Outcome and Measure(s): Microinsert position on 3D ultrasound and correlation with HSG. Result(s): Overall, 93% of the devices for 40 patients were found to have been placed successfully. The final sample comprised 64 Essure devices. HSG showed tubal patency for only three devices, all classified as 3-only. No tubal permeability was noted for the other 61 positions. This 3-only location on 3D ultrasound was statistically associated with a failure of sterilization in comparison with the other locations (3/16 [18%] vs. 0/48 [0%]). Conclusion(s): 3D ultrasound is a simple and reproducible technique to assess the position of the Essure microinsert and appears to protect most patients from the negative aspects of pelvic radiography and of HSG. Using the 3D ultrasound classification presented in this study appears to make it possible to use HSG for backup confirmation only when Essure is found to be in the 3-only position on 3D ultrasound. Copyright © 2010 American Society for Reproductive Medicine, Published by Elsevier Inc.

Database: EMBASE

24. Hysteroscopic sterilization. Essure: 4 years of experience

Author(s): Correia L.; Machado A.; Delgado E.; Farelo A.

Source: European Journal of Contraception and Reproductive Health Care; May 2010; vol. 15 ; p. 199-200

Publication Date: May 2010

Publication Type(s): Conference Abstract

Abstract:Objective: To present our experience in hysteroscopic sterilization. Design & Methods: A retrospective study of forty-nine women elected for sterilization by hysteroscopic method between July 2005 and July 2009. Hysteroscopic sterilization consist in the placement of Essure micro-inserts (Conceptus Inc, San Carlos, CA) under conscious sedation, carried out in a day surgery unit. We evaluated patient's age, associated diseases, ASA classification, procedure time, discomfort, adverse events, confirmation tests and success rate. Results: Women had ages between 33 and 45 years (38.2 +/- 3.84 years). Ninety-eight percent of women had associated diseases with 31% being obese and 31% having high surgical risk (ASA class III). The procedure took 26 minutes of mean time (40% between 11 and 20 minutes). Essure micro-inserts placement was completed in 96% of cases. Sixty percent of women had no pain, 38% described light pain and 2% moderate pain. No woman reported severe pain. There were no immediate post-operative problems but there were 2% of medium term complications with 1 woman reporting severe abdominal pain in the first months and operated for laparoscopic micro-inserts removal (bilateral salpingectomy). All women were told to use other contraceptive method for three months. After this period 88% of women return to confirm correct placement and 4 were lost in follow-up. An abdominal X-ray was realized in 39 women and a

transvaginal ultrasound in 4. About X-ray, 82% showed micro-inserts in place but 18% (n = 7) were not satisfactory, requiring a hysterosalpingography that confirmed bilateral tubal blockage. All ultrasounds showed micro-inserts in place. Considering long term success as bilateral tubal block, the success rate was 96% because in 2 women one of the Essure micro-inserts was expelled. Those women were later submitted to laparoscopic sterilization. Conclusions: The hysteroscopic sterilization is a rapid, no scarring and low discomfort procedure with few adverse events. It is the election method in women of high surgical risk with several associated diseases. In our case we need more experience to do it without sedation and to reduce procedure time. We have a high success rate and there was no pregnancies reported.

Database: EMBASE

25. Unintended pregnancies after Essure sterilization in the Netherlands.

Author(s): Veersema, Sebastiaan; Vleugels, Michel P H; Moolenaar, Lobke M; Janssen, Catharina A H; Brölmann, Hans A M

Source: Fertility and sterility; Jan 2010; vol. 93 (no. 1); p. 35-38

Publication Date: Jan 2010

Publication Type(s): Multicenter Study Journal Article

Abstract:OBJECTIVETo analyze the data of cases of unintended pregnancies after Essure sterilization.DESIGNRetrospective case series analysis.SETTINGNational multicenter.PATIENT(S)Ten cases of unintended pregnancies after Essure sterilization in the Netherlands were reported from August 2002 through May 2008.INTERVENTION(S)Data on the hysteroscopic Essure sterilization procedures and postprocedure confirmation tests of the reported cases were reviewed and analyzed by two authors. The causes of the unintended pregnancies were determined in agreement with the physicians who performed the sterilizations.MAIN OUTCOME MEASURE(S)Most pregnancies occurred in patients with only one device placement and bilateral occlusion on hysterosalpingography (HSG). Other cases included misinterpretation of HSG, undetected abnormal device position by ultrasound, one undetected preprocedure pregnancy, and two patient failures to follow up with the physician advice.CONCLUSION(S)The risk of pregnancy after hysteroscopic sterilization may be reduced by strictly following the follow-up protocol, performing a urinary pregnancy test on the day of the procedure, and instructing the patient to return for the follow-up visit. A procedure with only a single device placement in a patient without a history of tubectomy of the heterolateral tube should be considered unsuccessful.

Database: Medline

26. Pregnancy with Essure micro-inserts. Report of a case

Author(s): Serrano Davalos J.J.; Arjona Berral J.E.; Velasco Sanchez E.; Povedano Canizares B.; Romero Nieto I.; Rios Castillo J.E.

Source: Gynecological Surgery; 2009; vol. 6

Publication Date: 2009

Publication Type(s): Conference Abstract

Available in full text at [Gynecological Surgery](#) - from ProQuest

Available in full text at [Gynecological Surgery](#) - from Springer Link Journals

Abstract:Objective: To report a case of pregnancy in a patient with Essure micro-inserts. Materials and methods: Case report. Setting: Hospital Universitario Reina Sofia, Cordoba-Spain. Case: A 36 year old patient became pregnant 3 years after Essure placement procedure. In October 2005 an Essure was correctly inserted through ambulatory hysteroscopy in the right Fallopian Tube. The other Essure device could not be inserted due that ostium of the left Fallopian Tube was not visible during the procedure. An hysterosalpingography was performed, demonstrating permeability of the left Fallopian Tube, therefore, left Essure was correctly inserted through hysteroscopy under anesthesia in the OR. On January 2006, a new hysterosalpingography was done, which confirmed that both Essures were correctly placed and that both fallopian tubes were occluded. Almost 3 years later, the patient had a positive pregnancy test (LMP 21-June-2008). She had an uncomplicated pregnancy to term (39 weeks) and a vaginal delivery of a healthy, 3040 g, male. Results: Three months postpartum a vaginal sonography was performed, verifying that both micro-inserts are placed correctly. Conclusions: Laparoscopic bilateral tubal ligation is offered.

Database: EMBASE

27. Hysteroscopic tubal sterilization with the Essure device

Author(s): Varo B.; Marzal A.; Hidalgo J.J.; Rubio J.M.; Oltra D.; Monzo A.; Romeu A.

Source: Gynecological Surgery; 2009; vol. 6

Publication Date: 2009

Publication Type(s): Conference Abstract

Available in full text at [Gynecological Surgery](#) - from ProQuest

Available in full text at [Gynecological Surgery](#) - from Springer Link Journals

Abstract:Objective: Tubal sterilization with the Essure is a permanent contraceptive procedure not requiring general anesthesia or skin incisions. Materials and methods: This procedure consists of the placement of a device in the tubal ostia by hysteroscopy. In this work we present the case of women that, after a tubal sterilization using the Essure method, became pregnant and the progression of her pregnancy. The patient is a 38-year-old multiparous woman who desired a tubal sterilization. After the devices were placed, the presence of the right device could not be confirmed neither by pelvic x-ray nor by hysterosalpingography (HSG). Results: While waiting for new image tests, the patient became pregnant because alternative contraceptive methods were abandoned. Conclusion: The course of pregnancy occurred without complications and ended with a vaginal delivery of a healthy full-term male.

Database: EMBASE

28. Pregnancy after hysteroscopic tubal sterilization despite two hysterosalpingograms showing bilateral occlusion.

Author(s): Ploteau, Stéphane; Lopes, Patrice

Source: European journal of obstetrics, gynecology, and reproductive biology; Dec 2009; vol. 147 (no. 2); p. 238-239

Publication Date: Dec 2009

Publication Type(s): Letter Case Reports

Database: Medline

29. Pregnancy after Essure placement: report of two cases.

Author(s): Moses, A Whitney; Burgis, Judith T; Bacon, Janice L; Risinger, Jennifer

Source: Fertility and sterility; Mar 2008; vol. 89 (no. 3); p. 724

Publication Date: Mar 2008

Publication Type(s): Case Reports Journal Article

Abstract:OBJECTIVETo report two cases of pregnancy after placement of Essure micro-inserts.DESIGNCase report.SETTINGUniversity-based Department of Obstetrics and Gynecology.PATIENT(S)Patient 1, a 38-year-old woman, presented with a positive pregnancy test 7 months after Essure hysteroscopic sterilization. Patient 2, a 35-year-old female, became pregnant approximately 1 year after undergoing the Essure procedure.INTERVENTION(S)Patient 1 received obstetric ultrasounds, a prophylactic cerclage, a cesarean section, and a tubal ligation. Patient 2 underwent a postprocedure hysterosalpingogram, an obstetric ultrasound, pregnancy termination, diagnostic pelvic ultrasound, and a hysterectomy.MAIN OUTCOME MEASURE(S)Documentation of normal progress of pregnancy after Essure placement.RESULT(S)Patient 1 carried an uncomplicated pregnancy to term with an Essure micro-insert in place. Patient 2 became pregnant despite an hysterosalpingogram showing tubal occlusion and was ultimately found to have a micro-insert perforating the uterine wall.CONCLUSION(S)The presence of Essure micro-inserts in the fallopian tubes do not appear to interfere with implantation and pregnancy. Uterine perforation by an Essure micro-insert in proximity to the tubal ostia may mimic proper micro-insert placement and bilateral tubal occlusion on both hysterosalpingogram and saline infusion sonography.

Database: Medline

30. Pregnancy after microinsert sterilization with tubal occlusion confirmed by hysterosalpingogram.

Author(s): Ory, Erica M; Hines, Randall S; Cleland, William H; Rehberg, Jonathan F

Source: Obstetrics and gynecology; Feb 2008; vol. 111 (no. 2); p. 508-510

Publication Date: Feb 2008

Publication Type(s): Case Reports Journal Article

Available in print at [Patricia Bowen Library and Knowledge Service West Middlesex university Hospital](#) - from Obstetrics and Gynecology

Available in full text at [Obstetrics and Gynecology](#) - from Ovid

Abstract:BACKGROUNDIntroduced to the U.S. market in late 2002 as a permanent method of contraception, a microinsert device is placed hysteroscopically into the fallopian tubes, not requiring incisions or general anesthesia. This report describes a case of pregnancy more than 6 months after a hysterosalpingogram (HSG) confirming bilateral occlusion after microinsert sterilization.CASEA 30-year-old gravida 1 para 1 woman desired permanent sterilization. The patient underwent microinsert device placement and 6 months later had an HSG that confirmed bilateral tubal occlusion. More than 6 months after the confirmatory HSG, the patient became pregnant and delivered a term infant by cesarean birth. Cornual perforation was noted at surgery.CONCLUSIONThis case illustrates pregnancy after microinsertion sterilization and an HSG confirming bilateral tubal occlusion, despite perforation. A microinsert device continues to be a viable option for sterilization.

Database: Medline

31. A summary of reported pregnancies after hysteroscopic sterilization.

Author(s): Levy, Barbara; Levie, Mark D; Childers, Meredith E

Source: Journal of minimally invasive gynecology; 2007; vol. 14 (no. 3); p. 271-274

Publication Date: 2007

Publication Type(s): Journal Article

Abstract:The purpose of this article is to describe 64 unintended pregnancies reported by patients who had undergone hysteroscopic sterilization and to provide recommendations for avoiding post-procedure pregnancies. Sixty-four pregnancies out of an estimated 50,000 procedures were reported to the device manufacturer from 1997 through December 2005. Most occurred in patients without appropriate follow-up. Other causes included misread hysterosalpingograms, undetected preprocedure pregnancies, and failure to follow product-labeling guidelines. The risk of pregnancy with hysteroscopic sterilization may be reduced by educating patients about the necessity of follow-up, ensuring that patients use effective contraception before and after placement, following the instructions for use, and adhering to the hysterosalpingography protocol.

Database: Medline

32. Hysterosalpingography for assessing efficacy of Essure microinsert permanent birth control device.

Author(s): Wittmer, Michael H; Famuyide, Abimbola O; Creedon, Douglas J; Hartman, Robert P

Source: AJR. American journal of roentgenology; Oct 2006; vol. 187 (no. 4); p. 955-958

Publication Date: Oct 2006

Publication Type(s): Journal Article

Available in full text at [American Journal of Roentgenology](#) - from Free Access Content

Abstract:OBJECTIVEThe Essure microinsert is a new U.S. Food and Drug Administration-approved method of birth control. The objective of this study is to report our initial experience using hysterosalpingography (HSG) to assess its efficacy for permanent tubal occlusion.CONCLUSIONThe Essure microinsert produced tubal blockage in all patients. As this device may become more widely used, radiologists should be aware of the device's appearance and be able to assess device position and presence of tubal occlusion on HSG.

Database: Medline

33. Case report of failed tubal occlusion using ESSURE pbc (permanent birth control) hysteroscopic sterilisation procedure.

Author(s): Karthigasu KA; Garry R; Hart R

Source: Australian & New Zealand Journal of Obstetrics & Gynaecology; Aug 2006; vol. 46 (no. 4); p. 365-367

Publication Date: Aug 2006

Publication Type(s): Academic Journal

Available in full text at [Australian and New Zealand Journal of Obstetrics and Gynaecology](#) - from John Wiley and Sons

Available in print at [Patricia Bowen Library and Knowledge Service West Middlesex university Hospital](#) - from Australian and New Zealand Journal of Obstetrics and Gynaecology

Database: CINAHL

34. Follow-up of successful bilateral placement of Essure* microinserts with ultrasound

Author(s): Veersema S.; Timmermans A.; Vleugels M.P.H.; Brolmann H.A.M.

Source: Fertility and Sterility; Dec 2005; vol. 84 (no. 6); p. 1733-1736

Publication Date: Dec 2005

Publication Type(s): Article

Abstract:Objective: To evaluate the reliability of pelvic X-ray and transvaginal ultrasound to localize Essure microinserts (Conceptus, San Carlos, California) after successful placement in both fallopian tubes 3 months after placement. Design: Prospective, observational study. Setting: Gynecology departments at two teaching hospitals. Patient(s): One hundred eighty-two patients who underwent hysteroscopic sterilization by placement of Essure microinserts between August 2002 and August 2004. Intervention(s): Transvaginal ultrasound, pelvic X-ray, and hysterosalpingography (HSG) 3 months after sterilization with Essure. Main Outcome Measure(s): Transvaginal ultrasound confirmation of correct localization of microinserts after a 3-month follow-up. Result(s): In 150 of 182 patients, confirmation of successful bilateral placement of two microinserts (300 devices) was possible. In 9 patients it was not possible to identify both devices with ultrasound, or there was doubt about the extension of the device through the uterotubal junction. The other 291 devices were identified as being in a good position. Conclusion(s): Hysterosalpingography at the 3-month follow-up after successful placement of Essure microinserts can be replaced by transvaginal ultrasonography. A 3-month follow-up with HSG after the Essure procedure is only required after unsatisfactory placements. In those patients in whom transvaginal ultrasonography cannot confirm satisfactory localization, a complementary pelvic X-ray should be performed. ©2005 by American Society for Reproductive Medicine.

Database: EMBASE

35. Confirmation of Essure microinsert tubal coil placement with conventional and volume-contrast imaging three-dimensional ultrasound

Author(s): Thiel J.A.; Suchet I.B.; Lortie K.

Source: Fertility and Sterility; Aug 2005; vol. 84 (no. 2); p. 504-508

Publication Date: Aug 2005

Publication Type(s): Article

Abstract:Objective: To determine the accuracy of ultrasound in the assessment of proximal fallopian tube positioning of the Essure microinsert coil 3 months after postprocedure. Design: Prospective cohort study (Canadian Task Force classification II-2). Setting: Reproductive-age women in a tertiary care hospital. Patient(s): Reproductive-age women presenting with a request for permanent contraception. Intervention(s): Hysteroscopic sterilization with the Essure microinsert coil and conventional or volume-contrast three-dimensional (3D) ultrasound imaging 3 months after the procedure. Main Outcome Measure(s): Coil position on ultrasound. Result(s): Forty-eight of the 50 patients had successful placement of the Essure coils, and three patients required a second attempt on one tube. Conventional or volume-contrast (3D) ultrasound showed proper positioning of the coils within the proximal fallopian tube in 42 women (84%); five women (10%) required hysterosalpingogram to show appropriate positioning. Two patients (4%) required laparoscopic tubal sterilization, and one patient (2%) was lost to follow-up. Conclusion(s): Transvaginal ultrasound is an acceptable method of confirming proper placement of the Essure microinsert coil within the proximal fallopian tube 3 months after the procedure. ©2005 by American Society for Reproductive Medicine.

Database: EMBASE

36. Venous-lymphatic intravasation during hysterosalpingography using hydrosoluble contrast medium: A technique with no complications

Author(s): La Fianza A.; Fachinetti C.; Gorone M.S.P.

Source: Journal of Women's Imaging; Mar 2005; vol. 7 (no. 1); p. 38-43

Publication Date: Mar 2005

Publication Type(s): Article

Abstract: The aim of this article is to assess the incidence of venous/lymphatic intravasation during hysterosal-pingography (HSG), using iodinated non-ionic hydrosoluble contrast media, and the consequences that this condition involves. We have considered the major complications following intravasation; 1395 HSG performed in 9 years at our institute have been examined. The examination was performed through the application of exo-cervical cups or intracavitary Sholkoff catheters, injecting an average of 6 mL of non-ionic hydrosoluble contrast medium, with an iodine concentration of 320 to 370 mg I/mL. HSG was performed with digital equipment, under fluoroscopic control. We observed in 14 of 1395 patients (1%), 19 cases of intravasation; among them, 11 were venous (5 bilateral, 6 monolateral) and 3 were lymphatic (monolateral). Seven of fourteen patients presented HSG alterations of the tubal patency, represented by hydrosalpinx (4 patients, 5 tubes), monolateral tubal occlusion (1 patient, 1 case), bilateral tubal occlusion (1 patient, 2 cases), 1 case of monolateral salpingectomy, 1 case of Asherman's syndrome, and a mullerian malformation as the bicornuate uterus (1 case). Two patients showed concomitance of two alterations. 567 patients with alterations of the uterine/tubal patency did not report lymphatic-venous vessels intravasation or major complications. No patient with intravasation presented pulmonary or cerebral complications, or pelvic vessels thrombosis or late pelvic inflammatory disease. The venous/lymphatic opacification during HSG, using iodinated non-ionic hydrosoluble contrast media, does not represent a complication of the examination, because it is not linked to major complications. This event is not associated to predisposing anatomic conditions, such as tubal occlusion or endometrial-myometrial inflammation. Copyright © 2005 by Lippincott Williams & Wilkins.

Database: EMBASE

37. Quinacrine sterilization (QS) in Iran and the use of HSG as a measure of success

Author(s): Soroodi-Moghaddam S.

Source: International journal of gynaecology and obstetrics: the official organ of the International Federation of Gynaecology and Obstetrics; Oct 2003

Publication Date: Oct 2003

Publication Type(s): Article

Available in full text at [Intl Jrnal Gynecology and Obstet](#) - from John Wiley and Sons

Abstract:OBJECTIVES: To establish the safety, effectiveness and acceptability of quinacrine sterilization (QS) in Iran. To determine whether the hysterosalpingogram (HSG) performed under low pressure can be used to demonstrate success of the QS procedure rather than waiting for a pregnancy to occur in order to demonstrate failure. METHODS: This study was initiated in September 1990 in a private family planning clinic in Tehran, Iran. Patient intake for this analysis was completed 31 December 1998 and the cut-off date for follow-up data to be included in this analysis was 30 July 2002. During this period, 268 women received QS. From inception until April 1994, 160 women entered the study. The first 62 women received 3 insertions and the remainder received 2. Short-term side effects were closely followed in these 160 women. From 18 February 1994 until the patient intake cut-off date, 131 women entered the study and 46 of them received an HSG. RESULTS: With 4 to 12 years of follow-up there have been 7 pregnancies for a gross pregnancy rate of 2.6%. However, the use of the HSG tripled the risk of pregnancy for women who underwent the procedure. Furthermore, HSG, even when performed under minimal pressure, indicated failure of the QS procedure about 6% of the time when in fact both tubes would have closed had there been no intervention. Side effects were minor when compared to the complications of surgical sterilization. CONCLUSIONS: QS was found to be safe, effective and preferred over surgical sterilization by Iranian women. HSG understated the number of patients with bilateral tubal closure, or with tubes that would have closed given a little more time.

Database: EMBASE

38. Female sterilization with quinacrine using hysterosalpingography (HSG) as an endpoint after a single-insertion protocol in Caracas, Venezuela

Author(s): Giugni Chalbaud A.; Plaza Mora G.

Source: International journal of gynaecology and obstetrics: the official organ of the International Federation of Gynaecology and Obstetrics; Oct 2003

Publication Date: Oct 2003

Publication Type(s): Article

Available in full text at [Intl Jrnal Gynecology and Obstet](#) - from John Wiley and Sons

Abstract:OBJECTIVE: To evaluate the intrauterine insertion of quinacrine as an alternative nonsurgical female sterilization method by confirming bilateral occlusion of the fallopian tubes using HSG in a group of women who desire permanent sterilization. METHODS: After doing hysterosalpingography to confirm patency of both fallopian tubes, 324 mg of quinacrine were introduced with a modified IUD inserter in 30 patients who came to Concepcion Palacios Maternity Hospital seeking permanent sterilization, between June 2000 and September 2001. Follow-up with HSG was done 3 months later to verify occlusion of the fallopian tubes. RESULTS: 26 of 30 patients (86%) had bilateral tubal occlusion as determined by HSG. There were minor side effects such as: pain (66.7%), yellow discharge (100%) and menstrual abnormalities (13.3%). One woman became pregnant after HSG showed bilateral occlusion. HSG may interfere with the action of the quinacrine. CONCLUSION: QS is a simple and safe alternative to surgical sterilization with few side effects.

Database: EMBASE

39. Distal fallopian tube occlusion: false diagnosis with hysterosalpingography in cases of tubal diverticula.

Author(s): Muzii, L; Marana, R; Mancuso, S

Source: Radiology; May 1996; vol. 199 (no. 2); p. 469-471

Publication Date: May 1996

Publication Type(s): Journal Article

Available in full text at [Radiology](#) - from Free Access Content

Abstract: PURPOSE To evaluate the accuracy of hysterosalpingography (HSG) in the diagnosis of distal fallopian tube occlusion in infertile patients who were candidates for laparoscopic surgery. MATERIALS AND METHODS A retrospective review of charts was performed for 25 patients who were scheduled to undergo laparoscopic surgery. A preoperative diagnosis was made at HSG of bilateral (or unilateral in case of previous contralateral salpingectomy) distal tube occlusion. RESULTS At laparoscopy, in three patients (12%) who were scheduled for salpingostomy, the diagnosis of distal tube occlusion made at HSG was incorrectly positive; in the three patients, a single tubal diverticulum was present in the distal ampulla in otherwise normal, patent tubes. CONCLUSION Bilateral tubal diverticula appear to be often misdiagnosed at HSG as distal tube occlusion.

Database: Medline

40. Postoperative hysterosalpingography: Radiographic appearances and clinical results following tubal surgery

Author(s): Young G.P.; Ott D.J.; Chen M.Y.M.; Fayez J.A.; Gelfand D.W.

Source: Journal of Reproductive Medicine for the Obstetrician and Gynecologist; 1993; vol. 38 (no. 12); p. 924-928

Publication Date: 1993

Publication Type(s): Article

Abstract: Medical records and postoperative hysterosalpingograms on 23 women following tubal surgery who failed to become pregnant within 2-28 months were reviewed. A total of 39 tubes were analyzed. The surgical indications were reversal of tubal ligation in 24 tubes and correction of tubal or peritubal disease in 15 tubes. Tubal ligation had been performed by a variety of methods. At surgery, tubal patency, as shown by chromotubation, was seen in 37 (95%) of 39 tubes. On postoperative hysterosalpingography, tubal spillage was present in 32 (82%) of 39 tubes. Radiographically, the tubes that spilled appeared normal except for occasional shortening after reversal of tubal ligation. The eventual pregnancy rate was 8 (35%) of 23 patients, with 7 intrauterine. Pregnancy occurred only in women under 35 years and was more likely in the group having reversal of tubal ligation. We conclude that among patients who do not initially become pregnant following tubal surgery for infertility, tubal patency is restored in most. During hysterosalpingography, tubes operated on may appear normal or shortened. On long-term follow-up, younger patients and those requiring tubal anastomosis only had a higher pregnancy rate.

Database: EMBASE

41. Selective salpingography and fluoroscopic transcervical salpingoplasty for diagnosis and treatment of proximal fallopian tube occlusions.

Author(s): Mårtensson, O; Nilsson, B; Ekelund, L; Johansson, J; Wickman, G

Source: Acta obstetricia et gynecologica Scandinavica; Aug 1993; vol. 72 (no. 6); p. 458-464

Publication Date: Aug 1993

Publication Type(s): Journal Article

Abstract:In 25 women with primary or secondary infertility, primary hysterosalpingography (HSG) or laparoscopy with chromopertubation indicated 33 proximal and 2 distal tubal obstructions. Four salpingectomies had been performed earlier. All patients were considered for transcervical catheter salpingoplasty (TCSP) to reconstruct tubal patency. Secondary examination with repeat HSG or selective osteal salpingography confirmed 26 proximal and 3 distal tubal occlusions while 17 tubes were patent. Selective osteal salpingography was performed successfully in 32 of 33 (97%) tubes. Sixteen of 26 (61.5%) proximally occluded tubes were successfully recanalized by coaxial catheter and guidewire technique while two of three distally occluded tubes were reopened by forceful flushing of contrast medium. So far, one ectopic and five intrauterine pregnancies were achieved in ten patients with observation time more than four months. Three patients have had normal deliveries. The favorable results, lack of complications and low costs seem to justify the recommendation to use selective salpingography and fallopian tube recanalization as the first intervention in patients with obstruction of the proximal fallopian tube.

Database: Medline

42. Radionuclide hysterosalpingography: A simple and potentially useful method of evaluating tubal patency

Author(s): Gurgan T.; Kisinisci H.A.; Yarali H.; Caner B.; Aksu T.; Gunalp S.; Kapucu O.; Bekdik C.

Source: Journal of Reproductive Medicine for the Obstetrician and Gynecologist; 1991; vol. 36 (no. 11); p. 789-792

Publication Date: 1991

Publication Type(s): Conference Paper

Abstract:A prospective study was undertaken to evaluate the efficacy of radionuclide hysterosalpingography (RN-HSG) using 99mTc-labeled human albumin microspheres to assess the patency of the fallopian tubes in 36 women (72 tubes). The study group consisted of 20 women with proven fertility undergoing laparoscopic tubal ligation, 8 with male factor infertility and 8 with bilateral isthmic tubal occlusion. All RN-HSG scan results were correlated with the findings at laparoscopy when tubal patency was ultimately assessed with chromopertubation. The sensitivity and specificity of RN-HSG were 100% and 94.6%, respectively. The positive predictive value (probability of occlusion when RN-HSG was positive) was 84%, whereas the negative predictive value (probability of no occlusion when RN-HSG was negative) was 100%. RN-HSG is a simple and potentially useful method of assessing the patency of the fallopian tubes.

Database: EMBASE

43. Intrauterine and ectopic pregnancies after a tubal ligation with documented tubal occlusion.

Author(s): Shapiro, A G

Source: Southern medical journal; Aug 1985; vol. 78 (no. 8); p. 1014-1015

Publication Date: Aug 1985

Publication Type(s): Case Reports Journal Article

Abstract:The patient described had both an intrauterine and an extrauterine pregnancy after a previous vaginal tubal ligation using a Pomeroy technique. A hysterosalpingogram showed midtubal occlusion. Although pregnancy after tubal ligation is not unusual, this case does show that a hysterosalpingogram may also be inconclusive in ruling out the possibility of future pregnancy.

Database: Medline

44. Late tubal patency following tubal ligation

Author(s): Grunert G.M.

Source: Fertility and Sterility; 1981; vol. 35 (no. 4); p. 406-408

Publication Date: 1981

Publication Type(s): Article

Abstract:Hysterosalpingography (HSG), performed in the first 3 months after tubal ligation, has demonstrated a 1% to 2% incidence of tubal patency when initial operative errors have been excluded. In a group of 54 women, HSG was performed a mean of 4.8 years following sterilization; 9 women (16.7%) demonstrated spillage which was confirmed at laparoscopy in 7 of 8 women operated upon. No cases were due to initial surgical error. Delayed acquisition of tubal patency may explain late failure of tubal ligation, and the abnormal tubal lumen formed may be responsible for the increased percentage of ectopic pregnancies observed among sterilization failures. Ectopic pregnancy must be strongly considered in any failure of tubal ligation. In investigating the proximal tubal segment prior to consideration for tubal reconstruction, the possibility of a pre-existing or an iatrogenically formed fistula must be recalled which may predispose the patient to ectopic pregnancy.

Database: EMBASE

Strategy 220626

#	Database	Search term	Results
1	Medline	(tub* ADJ2 ligation).ti,ab	1626
2	Medline	(tubectomy*).ti,ab	117
3	Medline	exp SALPINGECTOMY/	865
4	Medline	(Salpingectomy*).ti,ab	1540
5	Medline	(1 OR 2 OR 3 OR 4)	3791
6	Medline	(hysterosalpingogram*).ti,ab	433
7	Medline	(5 AND 6)	28
8	Medline	exp HYSTEROSALPINGOGRAPHY/	4095
9	Medline	(Hysterosalpingograp*).ti,ab	2188
10	Medline	(8 OR 9)	4628
11	Medline	(5 AND 10)	81
12	Medline	(7 OR 11)	94
13	Medline	(tub* ADJ2 occlus*).ti,ab	1532
14	Medline	(10 AND 13)	257
15	Medline	exp "STERILIZATION, TUBAL"/	4116
16	Medline	(10 AND 15)	170
17	EMBASE	exp SALPINGECTOMY/	3526
18	EMBASE	(tub* ADJ2 ligation).ti,ab	2227
19	EMBASE	(tubectomy*).ti,ab	182
20	EMBASE	(17 OR 18 OR 19)	5742

21	EMBASE	(hysterosalpingogram*).ti,ab	634
22	EMBASE	(Hysterosalpingograp*).ti,ab	2515
23	EMBASE	exp HYSTEROSALPINGOGRAPHY/	4922
24	EMBASE	(21 OR 22 OR 23)	5613
25	EMBASE	(20 AND 24)	189
26	EMBASE	exp "UTERINE TUBE STERILIZATION"/	8292
27	EMBASE	(24 AND 26)	324
28	EMBASE	exp "TREATMENT FAILURE"/	110988
29	EMBASE	(27 AND 28)	10
30	EMBASE	exp "DIAGNOSTIC ACCURACY"/	215441
31	EMBASE	(27 AND 30)	11
32	EMBASE	(confirm*).ti,ab	1346293
33	EMBASE	(27 AND 32)	77
34	EMBASE	*HYSTEROSALPINGOGRAPHY/	2147
35	EMBASE	(20 AND 34)	26
36	EMBASE	exp "FOLLOW UP"/	1171295
37	EMBASE	(27 AND 36)	59
38	Medline	exp HYSTEROSALPINGOGRAPHY/ae	192
39	Medline	(5 AND 38)	2
40	Medline	exp "FALLOPIAN TUBES"/in	69
41	Medline	(10 AND 40)	12

42	Medline	(15 AND 38)	1
43	CINAHL	exp SALPINGECTOMY/	81
44	CINAHL	(tub* ADJ2 ligation).ti,ab	178
45	CINAHL	(tubectom*).ti,ab	5
46	CINAHL	(Salpingectom*).ti,ab	112
47	CINAHL	(43 OR 44 OR 45 OR 46)	320
48	CINAHL	exp HYSTEROSALPINGOGRAPHY/	103
49	CINAHL	(Hysterosalpingograp*).ti,ab	58
50	CINAHL	(48 OR 49)	128
51	CINAHL	(47 AND 50)	3
52	CINAHL	exp "STERILIZATION, TUBAL"/	438
53	CINAHL	(50 AND 52)	15