



Management of Ovarian Torsion

Date of the Request: 26 April 2019

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33. Long-term follow-up of the twisted ischemic adnexa managed by detorsion.

1. Pediatric ovarian torsion: Follow- up after preservation of ovarian tissue

Author(s): Geimanaite L.; Trainavicius K.

Source: Journal of Pediatric Surgery; 2019

Publication Date: 2019

Publication Type(s): Article

Abstract:Background: The aim of this study was to evaluate the efficiency of the preservation of ovarian tissue in cases of ovarian torsion. Material(s) and Method(s): A retrospective study was performed of patients treated at our hospital for ovarian torsion from January 2007 to December 2017. This research does not include patients with antenatal ovarian torsion and 1 girl with an immature teratoma, in whom the twisted ovary was removed during the initial operation. Follow-up ultrasonography of all patients was performed after 4-6 weeks and again after more than 12 weeks. Volume, blood flow and folliculogenesis of the ovary were measured and assessed. Result(s): All 42 ovaries (39 patients) preserved their normal anatomy and folliculogenesis after detorsion. All patients had an enlarged ovary at the time of detorsion. In all cases of ovarian torsion, enlargement of the ovary up to an average of 58.14 +/- 52.86 (17.37-86.83) ml was detected. After 4-6 weeks, all untwisted ovaries decreased in volume by an average of 9.01 +/- 13.69 (2.33-9.30) times, and 59.5% of them became normal in size. In 3 girls, enlarged ovaries were still observed after 12 weeks. Teratoma was diagnosed for these patients and ovarian sparing operations were performed. Conclusion(s): It is safe to perform detorsion regardless of the level of ischemia or volume of the affected ovary. The follow-up is essential, especially for the further diagnostics of potential pathological structures or tumors; therefore, the normalization of blood flow and the volume of the ovary must be monitored. Type of Study: Prognosis retrospective study. Level of Evidence: II
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Database: EMBASE

2. Conservative management of ovarian torsion in pre-pubertal girl

Author(s): Abdul Raheem T.; Gafar W.; Lloyd A.; Scarr C.

Source: European Journal of Obstetrics Gynecology and Reproductive Biology; Mar 2019; vol. 234

Publication Date: Mar 2019

Publication Type(s): Conference Abstract

Abstract:Introduction: Ovarian torsion, traditionally managed with oophorectomy, there is evidence that a more conservative approach - detorsion/untwisting of the ovary - is an effective strategy. This case involves a pre-pubertal girl. Objective(s): To increase awareness of the success rate of the conservative management of ovarian torsion by untwisting the ovarian pedicle, regardless to the degree of the ischemic changes of the ovary. Method(s): We reviewed existing evidence regarding conservative management of ovarian torsion: * BMJ Best Practice (2015): "Laparoscopic surgery with detorsion is the preferred treatment to preserve normal ovarian function and fertility" TOG 2012 Damigos et al. * Oeslner (1993): 40 patients with black/blue ischaemic adnexa managed by untwisting. * Karayalcin et al (2011): Case series of 36 patients. * Fujishita et al (2015): Case series of 18 women. Discussion and conclusions: A 13 year old girl who presented to the ED with a 2-day history of left-sided abdominal pain, backache and urinary symptoms. She was vitally stable and her abdomen was soft, non-tender. She was discharged with oral antibiotics to treat a suspected UTI. She was referred back the following day by her GP with worsening pain and vomiting. There was left iliac fossa tenderness and left renal angle tenderness, however the abdomen was soft and not peritonitic. Blood tests revealed a marginally raised CRP. A pelvic scan revealed an enlarged left ovary with no blood flow and was highly suggestive of ovarian torsion. By this point she had been symptomatic for over 5 days. A diagnostic laparoscopy revealed an enlarged necrotic left adnexa

that had twisted 3 times. Cyst aspiration and untwisting of the ovary was performed. Her symptoms resolved postoperatively. A follow up scan 3 months later showed a normal-sized ovary with normal blood flow. In conclusion, ovarian torsion is an important differential diagnosis to consider in girls presenting with non-specific abdominal pain. Laparoscopic detorsion is an effective conservative approach regardless to the degree of ischemic changes, that aims to preserve future fertility. Copyright © 2018

Database: EMBASE

3. Ovarian cyst torsion in reproductive age group-changing trends in management

Author(s): Luthra A.

Source: International Journal of Gynecology and Obstetrics; Oct 2018; vol. 143 ; p. 334

Publication Date: Oct 2018

Publication Type(s): Conference Abstract

Available at [International Journal of Gynecology and Obstetrics](#) - from Wiley Online Library Science , Technology and Medicine Collection 2017

Abstract: Objectives: (1) Early diagnosis of ovarian cyst torsion by Ultrasound & Doppler study. (2) Laparoscopic de-torsion and conservative surgery to preserve the ovary. Method(s): Design - Retrospective study from 2013-2018. Setting - Advanced laparoscopy Centre. Patients - 23 patients in reproductive age with acute abdominal pain and USG finding of ovarian cyst of 5 cm or more with provisional diagnosis of twisted ovarian cyst were included. Inv - USG abdomen +TVS with Doppler, MRI in cases suspicious of malignancy. Ovarian tumor markers. All patients were taken for laparoscopy and assessed for characteristics of ovarian cyst, extent of torsion, detorsion of twisted adnexa and reperfusion of tissue after untwisting. Post cystectomy ovarian function was assessed by ovarian volume, follicles & doppler. Result(s): Detorsion of twisted ovarian/adnexal cyst results in preservation of ovary and tube in 80% of cases. Conclusion(s): Early diagnosis and surgical intervention is ideal in women with acute abdominal pain and suspected ovarian/adnexal torsion. Laparoscopic DE torsion, conservation of healthy ovarian tissue helps in conserving the fertile potential in young women. Risk of thromboembolism is rare in cases with twisted ovarian cysts.

Database: EMBASE

4. Laparoscopic Detorsion of Twisted Ovary in a Nulliparous Woman with a Recurrent, Bilateral Mature Cystic Teratoma

Author(s): Rodrigues C.; Caldas R.; Reis I.; Kok M.; Lanhoso A.; Amaral J.

Source: Journal of Gynecologic Surgery; Oct 2018; vol. 34 (no. 5); p. 265-267

Publication Date: Oct 2018

Publication Type(s): Article

Abstract: Background: Ovarian mature cystic teratomas are common, benign, pelvic tumors easily detected by ultrasonography. These tumors are bilateral in 8% to 15%, and recurrent teratomas are uncommon and underdiagnosed. A benign dermoid cyst is the most common ovarian mass to develop torsion. Although uncommon, adnexal torsions are an important cause of gynecological emergencies. It was previously thought that untwisting the adnexa could result in an embolus from thrombosed veins but this has proved untrue. Currently, it is considered that laparoscopic conservative management by untwisting the ovary allows recovery of almost all cases, even when the ovaries seem nonviable. Case: This article presents a case of an ovarian torsion in a 23-year-old nulliparous woman referred to our emergency room because of acute right iliac fossa pain.

Ultrasound showed a complex right adnexal mass 60 x 60 mm. Three years earlier she had undergone, in an urgent context, a left adnexectomy and a right cystectomy for bilateral teratoma and torsion of the left ovary. We decided on a conservative laparoscopic approach with adnexal detorsion. Result(s): At a follow-up visit, one year after the episode, the TVUS showed an ovary of normal size and appearance. Conclusion(s): This case demonstrates the importance of conservative treatment of adnexal torsion, especially in young women, allowing them to maintain their fertility. © Copyright 2018, Mary Ann Liebert, Inc., publishers 2018.

Database: EMBASE

5. Ovarian torsion in pediatric and adolescent patients: A systematic review

Author(s): Dasgupta R.; Renaud E.; Goldin A.B.; Baird R.; Cameron D.B.; Arnold M.A.; Diefenbach K.A.; Gosain A.; Jancelewicz T.; Williams R.F.; Grabowski J.; Guner Y.S.; Kawaguchi A.; Lal D.R.; Oyetunji T.A.; Ricca R.L.; Shelton J.; Somme S.; Downard C.D.

Source: Journal of Pediatric Surgery; Jul 2018; vol. 53 (no. 7); p. 1387-1391

Publication Date: Jul 2018

Publication Type(s): Article

PubMedID: 29153467

Abstract:Objective: Ovarian torsion in pediatric patients is a rare event and is primarily managed by pediatric general surgeons. Torsion can be treated with detorsion of the ovary or oophorectomy. Oophorectomy is the most common procedure performed by pediatric general surgeons for ovarian torsion. The purpose of this systematic review by the American Pediatric Surgical Association Outcomes and Evidence Based Practice Committee was to examine evidence from the medical literature and provide recommendations regarding the optimal treatment of ovarian torsion. Method(s): Using PRISMA guidelines, six questions were addressed by searching Medline, Cochrane, Embase Central and National clearing house databases using relevant search terms. Risks of ovarian detorsion including thromboembolism and malignancy, indications for oophoropexy, benefits of detorsion including recovery of function and subsequent fertility, and recommended surveillance after detorsion were evaluated. Consensus recommendations were derived for each question based on the best available evidence. Result(s): Ninety-six studies were included. Risks of ovarian detorsion such as thromboembolism and malignancy were reviewed, demonstrating minimal evidence for unknowingly leaving a malignancy behind in the salvaged ovary and no evidence in the literature of thromboembolic events after detorsion of a torsed ovary. There is no clear evidence supporting the benefit of oophoropexy after a single episode of ovarian torsion. The gross appearance of the ovary does not correlate with long-term ovarian viability or function. Pregnancies have occurred in patients after detorsion of an ovary both spontaneously and with harvested oocytes from previously torsed ovaries. The consensus recommendation for imaging surveillance following ovarian detorsion is an ultrasound at 3 months postprocedure but sooner if there is a concern for malignancy. Conclusion(s): There appears to be overwhelming evidence supporting ovarian detorsion rather than oophorectomy for the management of ovarian torsion in pediatric patients. Ovarian salvage is safe and is the preferred treatment for ovarian torsion. Most salvaged ovaries will maintain viability after detorsion. Type of Study: Systematic review of level 3-4 studies. Level of Evidence: 3-4 Copyright © 2017 Elsevier Inc.

Database: EMBASE

6. Apparent Gangrenous Twisted Ovarian Cyst in Adolescents: Successful Ovarian Conservation Following Laparoscopic Detorsion

Author(s): Yong S.L.; Mohd Basir M.H.; Wong S.I.L.; Ong Z.W.; Kang M.

Source: Journal of Gynecologic Surgery; Jun 2018; vol. 34 (no. 3); p. 150-153

Publication Date: Jun 2018

Publication Type(s): Article

Abstract:Background: Ovarian torsion is a rare gynecologic emergency in adolescents and, upon diagnosis, immediate surgical intervention is mandatory to salvage the affected ovary. Oophorectomy is conventionally performed when the affected ovary is clinically deemed nonviable. However, a recent conservative method of detorsion and conservation of an apparently gangrenous twisted ovarian cyst has emerged, and it has been proven that seemingly gangrenous ovarian tissue is still capable of remaining viable even after prolonged ischemia. Cases: This article reports 2 cases of young adolescents, each of whom presented with an acute abdomen secondary to ovarian cyst torsion. Both patients were managed with two-stage conservative laparoscopic surgery (laparoscopic detorsion followed by interval laparoscopic cystectomy) performed by a general gynecologist in a district hospital. Although the twisted ovary appeared gangrenous during the emergency diagnostic laparoscopy in both cases, detorsion rather than conventional oophorectomy was performed. Results: In each case, subsequent second-look laparoscopy revealed viable ovarian tissue, enabling conservation of the ovary by only cystectomy, thus salvaging a previously apparent gangrenous ovary. Histopathologic testing confirmed benign ovarian cysts in both cases. Conclusions: Laparoscopic detorsion is currently the preferred choice of treatment for a twisted ovary in an adolescent, despite its gangrenous appearance. This is a simple but crucial procedure that can be performed easily by a general gynecologist with level 2 operative laparoscopic skills. Detorsion would be a superior option to maximize female ovarian reserve and future reproductive potential. (J GYNECOL SURG 34:150)© Copyright 2018, Mary Ann Liebert, Inc.

Database: EMBASE

7. Conservative laparoscopic management of adnexal torsion based on a 17-year follow-up experience

Author(s): Chu K.; Zhang Q.; Sun N.; Ding H.; Li W.

Source: Journal of International Medical Research; Apr 2018; vol. 46 (no. 4); p. 1685-1689

Publication Date: Apr 2018

Publication Type(s): Article

PubMedID: 29486636

Available at [Journal of International Medical Research](#) - from Free Medical Journals . com

Available at [Journal of International Medical Research](#) - from Unpaywall

Abstract:Laparoscopic unwinding of adnexal torsion has been proposed for decades. However, this technique is still controversial regarding the concern of thromboembolic events. We present two cases of conservative laparoscopic management of adnexal torsion. In the first case, a 16-year-old adolescent with serous cystadenoma was successfully managed by untwisting and cystectomy. We followed up this patient for 17 years with regular re-examinations in our hospital. To the best of our knowledge, this is the longest follow-up reported of this condition. In the second case, a 32-year-old infertile woman who received oocyte retrieval 3 days before being admitted to hospital was referred to hospital with right ovarian torsion. We treated her successfully based on our long-term follow-up experience, and she is now asymptomatic and in her 7th month of pregnancy. Copyright © 2018, © The Author(s) 2018.

Database: EMBASE

8. Ovarian torsion during third trimester of pregnancy: Laparoscopic management

Author(s): Heredia F.M.; Bustos A.; Stecher J.F.; Hinostroza M.; Escalona J.R.; Donetch G.R.

Source: Journal of Minimally Invasive Gynecology; 2017; vol. 24 (no. 7)

Publication Date: 2017

Publication Type(s): Conference Abstract

Abstract:This video shows a rare case of ovarian torsion during 33rd week of gestation managed laparoscopically. An open 10 mmHg pneumoperitoneum was performed in the subxyphoid area. Three auxiliary ports were placed after tilting the operation table to the left. Careful untwisting of the uteroovarian pedicle followed by an inbag cyst aspiration and then cystectomy were done with minimal bipolar coagulation of the tumoral bed. Biopsy proved a benign serous cystadenoma. Baby was delivered uneventfully at 39 weeks, 6 weeks after this surgery was performed. The purpose of this video is to demonstrate feasibility of a simple, safe and reproducible technique which requires basic training and instruments widely available.

Database: EMBASE

9. Laparoscopic Adnexectomy for Ovarian Torsion during Late Pregnancy: Case Report of a Non-Conservative Treatment and Literature Analysis.

Author(s): Bouquet de Joliniere, Jean; Dubuisson, J B; Khomsi, F; Fadhlaoui, A; Grant, G; Ali, N Ben; Major, A; Feki, A

Source: Frontiers in surgery; 2017; vol. 4 ; p. 50

Publication Date: 2017

Publication Type(s): Case Reports

PubMedID: 29075630

Available at [Frontiers in surgery](#) - from Europe PubMed Central - Open Access

Available at [Frontiers in surgery](#) - from Unpaywall

Abstract:Diagnosis of adnexial torsion is difficult during pregnancy (1). The time of decision and laparoscopy is that of the risk of necrosis of the adnexa and, therefore, of the ovarian prognosis. The loss of an ovary can compromise the following fertility. Even if concerns related to laparoscopy in pregnant patients include a limited surgical field, with a risk of uterine injury and negative fetal effects of CO₂ insufflation. Evidence base suggests that minimally invasive surgery can be safe and better than laparotomy for management of adnexal masses during late pregnancy with good postoperative and obstetric outcomes. If for most authors laparoscopy appears to become the best approach for ovarian torsion during pregnancy (2), nonetheless, the ideal surgical laparoscopic approach of adnexa in late pregnancy remains controversial. Since there is no technical gold standard to overcome surgical difficulties which could make laparoscopic procedures as real challenge in patients in second and third trimester (3); at least, in case of radical and non-conservative treatment, the risk for a first trimester of pregnancy is to remove the corpus luteum (1).

Database: Medline

10. Adnexal torsion: Management controversy: A case series

Author(s): Moiety F.M.S.

Source: Middle East Fertility Society Journal; Jun 2017; vol. 22 (no. 2); p. 156-159

Publication Date: Jun 2017

Publication Type(s): Article

Available at [Middle East Fertility Society Journal](#) - from Unpaywall

Abstract:Objective To present and analyse a case series with adnexal torsion, and to describe management options applied. Study design A prospective analysis, over 4 years; (October 2011 to October 2015). Setting University hospital's Gynaecology centre. Subjects & methodology A total of 46 patients presenting with adnexal torsion were analysed, 22 of which were pregnant. Intervention Laparoscopy was done for all cases, and decision for detorsion, Ovarian cystectomy, or adnexectomy was taken immediately. Main outcome measures Ovarian structure and function conservation, in terms of restoration of normal ovarian blood flow, proven by color Doppler Ultrasonographic scan, after 1, 6 and 12 months, normal ovarian volume and follicular development, by Ultrasound scan at 1, 6 and 12 months, second look laparoscopy, recommended for the non-pregnant group, showing a normal appearance, size, and position of the ovaries, and the gross appearance of the ovaries for the pregnant who underwent a Cesarean section (CS). Results Ovarian torsion was diagnosed in 48 ovaries (2 bilateral), All of the cases were managed by detorsion, with cystectomy (if ovarian cyst present), with or without oophoropexy. Adnexectomy was not done in any case. No complication, nor conversion to laparotomy was reported. 2 cases showed recurrence (4.43%) one pregnant, at 34 weeks, and was managed by a Caesarean section and detorsion, and one non-pregnant, managed by a second laparoscopic detorsion. Follow up by Ultrasonographic, and color Doppler scans, second look laparoscopy (done in 16/24 cases), and inspection at CS, proved complete conservation of the treated ovaries. Conclusions Laparoscopic management of ovarian torsion - whether in pregnancy or not- seems to be the route of choice. Detorsion was adequate to preserve ovarian structure and function in all cases studied, regardless of the degree of ovarian ischemia, the surgeon found. Ovarian fixation after detorsion was not found to be necessary to decrease recurrence. Copyright © 2017 Middle East Fertility Society

Database: EMBASE

11. Evolution in the Management of Pediatric and Adolescent Ovarian Torsion as a Result of Quality Improvement Measures

Author(s): Hubner N.; Kives S.; Allen L.M.; Langer J.C.

Source: Journal of Pediatric and Adolescent Gynecology; Feb 2017; vol. 30 (no. 1); p. 132-137

Publication Date: Feb 2017

Publication Type(s): Conference Paper

PubMedID: 27381235

Abstract:Study Objective The aim of this study was to document the change in ovarian conservation rate after ovarian torsion as a result of continuous quality improvement (CQI) measures, and to determine factors that contribute to this outcome. Design A retrospective, uncontrolled before-and-after study. Setting An academic children's hospital. Participants Female adolescents younger than 18 years with surgically confirmed ovarian torsion from April 1, 1988 to October 15, 2013; excluding cases from 2003 (intervention period). Interventions Implementation of CQI measures including educational programs, collaborative care pathways, and quality review with the goal of improving ovarian conservation. Main Outcome Measures Demographic characteristics, details on presentation, investigations, consultation, surgical intervention, surgical findings, pathology, postoperative course, and follow-up imaging. Results One hundred thirty-nine patients met inclusion criteria (42 pre-CQI cohort and 97 post-CQI cohort). Mean ages were 9.96 and 10.33 years, respectively. Ovarian conservation rates were 47.6% compared with 85.6%, respectively ($P < .001$). The following factors differed between cohorts: fever ($P = .003$), ultrasound completed ($P = .001$), time from first health care provider visit to imaging ($P = .025$), time from specialist consultation to surgery ($P = .002$), surgical start time within 1 hour of booking ($P < .001$), and gynecologist present in

operating room ($P < .001$). A log-binomial regression model showed that gynecology presence in the operating room (relative risk [RR], 2.043) was associated with untwisting. Increasing time from specialist consultation to surgery (RR, 0.986 per hour) was inversely associated with untwisting. Fever at presentation was also inversely associated with untwisting (RR, 0.666). Conclusion The implementation of CQI measures was associated with a significant increase in ovarian conservation rate. Copyright © 2016 North American Society for Pediatric and Adolescent Gynecology

Database: EMBASE

12. Impact of laparoscopic ovarian detorsion on ovarian reserve

Author(s): Yasa C.; Dural O.; Bastu E.; Zorlu M.; Demir O.; Ugurlucan F.G.

Source: Journal of Obstetrics and Gynaecology Research; Feb 2017; vol. 43 (no. 2); p. 298-302

Publication Date: Feb 2017

Publication Type(s): Article

PubMedID: 27928855

Available at [Journal of Obstetrics and Gynaecology Research](#) - from Wiley Online Library Science , Technology and Medicine Collection 2017

Abstract: Aim: The aim of this study was to evaluate ovarian reserve after laparoscopic ovarian detorsion in patients with ovarian torsion. Methods: From February 2014 to September 2015, a total of 11 patients with ovarian torsion underwent laparoscopic detorsion. These 11 patients were eligible for study, and ovarian reserve was assessed on serum anti-Mullerian hormone (AMH) and by antral follicle count preoperatively, and in postoperative months 1 and 3. Results: Mean patient age was 25.4 +/- 5.5 years. Although mean antral follicle count on the operated side was slightly lower than on the contralateral side at 1 month postoperatively ($P > 0.05$), at 3 months postoperatively there was no difference in mean antral follicle count between the operated and contralateral sides ($P > 0.05$). There was no significant change in serum AMH level at 1 and 3 months postoperatively compared with the preoperative level ($P > 0.05$). Conclusions: Laparoscopic detorsion of twisted ovary is a safe procedure to preserve ovarian function, and does not impair ovarian reserve according to antral follicle count and AMH during the course of follow-up. Copyright © 2016 Japan Society of Obstetrics and Gynecology

Database: EMBASE

13. Laparoscopic detorsion and successful pregnancy outcome following IVF pregnancy:

Author(s): Agrawal N.; Al-Inizi S.

Source: Human Fertility; 2016; vol. 19 (no. 1)

Publication Date: 2016

Publication Type(s): Conference Abstract

Abstract: Objective: Ovarian stimulation increases the risk of ovarian torsion. Early clinical diagnosis and laparoscopic detorsion would be able to preserve torsed adnexa. Doppler ultrasound is an important investigation to check vascular flow. Case report: A 31 year old lady underwent IVF for secondary tubal and sperm sub fertility. She attended A&E with 2 days history of severe right sided abdominal pain one week following embryo transfer. She was managed conservatively with analgesia hydration and VTE prophylaxis with D/D of OHSS. Ultrasound revealed enlarged right multicystic ovary with normal arterial and venous flow. She underwent laparoscopic untwisting of right adnexa and multiple ovarian cyst drainage for uncontrolled pain and suspected diagnosis of ovarian torsion. Right ovary was enlarged to 16-18 cm with torqued right cyst 3 times and evidence of

1.5 lit ascitis. She had serial growth scans at 32 and 36 weeks which showed normal growth. She came into spontaneous labour at 40+5 & had emergency CS category 1 for presumed fetal compromise at 9 cm dilatation with fetal maternal tachycardia and suspected chorioamnionitis. Right ovary was found to be enlarged intraoperatively. Discussion(s): Laparoscopic surgery is safe in first and second trimester. Therefore an ovarian torsion should be treated by minimal invasive surgery. Maternal adnexal torsion is very rare in spontaneous pregnancies. Since it has been described as a severe complication after controlled ovarian hyper-stimulation for IVF, it is more common in IVF pregnancies. Sequential and repeated ovarian torsion have been reported. Doppler ultrasound should be considered as a first line exam. The complete absence of vascular flow may be an indication for adnexectomy. Conclusion(s): Clinicians should be aware of D/D of ovarian torsion following IVF pregnancy. Early clinical diagnosis supported by scan would help to preserve the twisted adnexae.

Database: EMBASE

14. Laparoscopic detortion of twisted ovary in a nulliparous with a single ovary: Case report

Author(s): Santos F.; Rodrigues C.; Amaral J.; Foo M.; Lanhos A.

Source: Gynecological Surgery; 2016; vol. 13 (no. 1)

Publication Date: 2016

Publication Type(s): Conference Abstract

Available at [Gynecological Surgery](#) - from SpringerLink

Available at [Gynecological Surgery](#) - from ProQuest (Health Research Premium) - NHS Version

Abstract: Background Adnexal torsion is an uncommon but important cause of gynecological emergency. The annual prevalence is approximately 2% to 6%. Torsion generally occurs in women with moderately enlarged ovaries, often in association with an ovarian cyst. It was previously thought that untwisting the adnexa could result in an embolus from thrombosed veins but this has been proved untrue. Recent studies showed that laparoscopic conservative management with untwisting the ovary allows the recovery of almost all the cases, even macroscopically non-viable ovaries. In this way, our main objective is to present a case of ovarian torsion in a 23-year old nulliparous woman with a single ovary. Methods The case is presented with appropriate history, laboratory values, imaging results and treatment description. Literature of the topic of conservative approach of adnexal torsion is systematically reviewed. Results A 23-year-old nulliparous woman, presented to the emergency unit with a 2 days history of right iliac fossa pain. She had history of left oophorectomy and right cystectomy 3 years ago due to dermoid cyst. Transvaginal ultrasound shows a right adnexal mass of 60x60mm with a small amount of free fluid in the pouch of Douglas. On the 2nd day of admission, a diagnostic laparoscopy was performed which confirmed a 7cm dark, hemorrhagic, edematous twisted right ovary. The right ovary was untwisted and after several (30) minutes the normal coloration of this structure was reestablished. The surgeons performed ovariopexy to the posterior wall of the uterus. In a second-look laparoscopy, performed 6 weeks after the acute episode, a right ovarian mass with appearance consistent with a dermoid cyst was detected and cystectomy was done. After surgery the patient has been followed-up with abnormal clinically symptoms of menopause, ultrasound and basal FSH plus estradiol. Conclusions There are conservative and definitive options for treatment. The factors involved in this decision include age, future fertility, menopausal status and evidence of ovarian disease. In this particular case, of a nulliparous with a single ovary, an attempt to preserve ovary function and subsequent fertility was mandatory. Even if the ovary appears dark and dusky on initial inspection most ovaries (90%) demonstrate normal follicular development on ultrasound and normal gross appearance on second look surgery. The difficulty of performing cystectomy at the time of detorsion is the loss of tissue plans which may result in excision of undue amount of ovarian tissue. Perform a cystectomy as an

elective procedure allowed, optimize the intervention and verify the appearance of the ovary few weeks after detorsion.

Database: EMBASE

15. Magnetic resonance imaging features of massive ovarian edema in pregnancy: utility for decisions in expectant management.

Author(s): Gobara, Aiko; Yoshizako, Takeshi; Yoshida, Rika; Okada, Naruhito; Makihara, Ken; Kitagaki, Hajime

Source: SpringerPlus; 2016; vol. 5 (no. 1); p. 1444

Publication Date: 2016

Publication Type(s): Journal Article

PubMedID: 27652020

Available at [SpringerPlus](#) - from Europe PubMed Central - Open Access

Available at [SpringerPlus](#) - from Unpaywall

Abstract:INTRODUCTIONMassive ovarian edema (MOE) is a rare disease and few reports have described the magnetic resonance (MR) imaging manifestations in pregnancy.CASE DESCRIPTIONWe report here a case of MOE in a patient at 12 weeks' gestation. Abdominal T2-weighted MR images showed asymmetric ovarian enlargement in a teardrop configuration, hyperintense peripherally displaced follicles, and twisting of the vascular pedicle between the enlarged ovary and uterus. The diagnosis of MOE due to ovarian torsion was confirmed by exploratory laparotomy. Preoperative imaging, especially the MR imaging could distinguish MOE from other conditions and demonstrate the relations of adjunct organ, and allowed for untwisting during laparotomy with successful preservation of the ovary.DISCUSSION AND EVALUATIONUltrasonography is important in detecting, evaluating, and determining the malignant potential of adnexal masses in pregnancy, but its findings may be nonspecific and then MR may assist characterization. This case was tentatively diagnosed as typical MOE by preoperative imaging, but the shape and location of the hugely enlarged ovarian mass suggested torsion of the ovarian pedicle. In our case, the diagnosis was confirmed by exploratory laparotomy and the pedicle was successfully untwisted.CONCLUSIONMR imaging proved useful for decisions on expectant management of MOE in pregnancy, and the patient's affected ovary could be preserved.

Database: Medline

16. Recurrent Ipsilateral Ovarian Torsion: Case Report and Literature Review.

Author(s): Bertozzi, Mirko; Magrini, Elisa; Bellucci, Cristina; Riccioni, Sara; Appignani, Antonino

Source: Journal of pediatric and adolescent gynecology; Dec 2015; vol. 28 (no. 6); p. e197

Publication Date: Dec 2015

Publication Type(s): Case Reports Journal Article Review

PubMedID: 26099697

Abstract:BACKGROUNDRecurrent ipsilateral ovarian torsion at pediatric age is a rare event. Different surgical techniques for its prevention are available. We present a case of recurrent ipsilateral ovarian torsion in a prepubertal girl and we reviewed the literature about the management of this condition.CASEA 6-year-old girl presented with right ovarian torsion and underwent a laparoscopic untwisting. Nine months later an ipsilateral recurrence occurred. Laparoscopic untwisting and right-sided oophoropexy with plication to the round ligament was performed.SUMMARY AND

CONCLUSIONIn addition to our presented case, four cases of recurrent ipsilateral ovarian torsion in pediatric patients were identified in the literature. The few available reports in the pediatric literature show different management techniques. A long-term study is necessary to define the most effective treatment.

Database: Medline

17. Ultrasound-guided percutaneous aspiration of hyperreactio luteinalis avoids laparoscopic untwisting of ovarian torsion

Author(s): Sakae C.; Sato Y.; Taga A.; Satake Y.; Emoto I.; Maruyama S.; Kim T.

Source: Ultrasound in obstetrics & gynecology : the official journal of the International Society of Ultrasound in Obstetrics and Gynecology; Aug 2015; vol. 46 (no. 2); p. 243-246

Publication Date: Aug 2015

Publication Type(s): Article

PubMedID: 25810122

Available at [Ultrasound in obstetrics & gynecology : the official journal of the International Society of Ultrasound in Obstetrics and Gynecology](#) - from Wiley Online Library Science , Technology and Medicine Collection 2017

Available at [Ultrasound in obstetrics & gynecology : the official journal of the International Society of Ultrasound in Obstetrics and Gynecology](#) - from Unpaywall

Abstract:Hyperreactio luteinalis (HL) is characterized by multicystic bilateral enlargement of the ovaries and is a self-limiting benign condition associated with pregnancy or trophoblastic disease. Since HL regresses spontaneously over time, it should be managed conservatively as long as the patient's condition permits; torsion of the enlarged ovaries is believed to be the only exception that mandates surgical intervention. Here, we describe a case of HL complicated by ovarian torsion that was treated successfully without surgical intervention. A 33-year-old woman was admitted to our hospital owing to acute abdomen. Nine days previously, she had had a stillbirth caused by hydrops fetalis at 24 weeks' gestation. The characteristic findings observed on magnetic resonance imaging (MRI) led to the diagnosis of HL complicated by torsion of the enlarged left ovary. Emergency laparoscopic detorsion of the ischemic left ovary was planned. Aiming to reduce the risk of cystic injury and bleeding at the trocar insertion site, volume reduction of the left ovarian cyst was performed by percutaneous aspiration. The patient's pain diminished rapidly and laparoscopic surgery was deferred. Subsequent MRI revealed that gadolinium enhancement of the left ovarian tumor had been restored, indicating spontaneous detorsion of the left ovary. The patient remained asymptomatic and was discharged from the hospital 12 days after aspiration of the cyst. From this experience, we propose that, in cases of ovarian torsion occurring in large functional cysts, including HL, volume reduction by percutaneous cyst aspiration should be considered before performing emergency laparoscopic surgery. Copyright © 2015 ISUOG. Published by John Wiley & Sons Ltd.

Database: EMBASE

18. Detorsion of twisted haemorrhagic ovarian cyst

Author(s): Anwar S.

Source: BJOG: An International Journal of Obstetrics and Gynaecology; Apr 2015; vol. 122 ; p. 68

Publication Date: Apr 2015

Publication Type(s): Conference Abstract

Available at [BJOG: An International Journal of Obstetrics and Gynaecology](#) - from Wiley Online Library Science , Technology and Medicine Collection 2017

Available at [BJOG: An International Journal of Obstetrics and Gynaecology](#) - from Unpaywall

Abstract: Introduction Ovarian torsion is the fifth most common gynaecological surgical emergency accounting for 2.7% of acute gynaecological cases. Two groups of women are affected by ovarian torsion women in mid 20s and women who are postmenopausal. Approximately 17% cases have been found in premenarchal and postmenopausal women. The recurrence rate is 19.5% in pregnant and 9.1% in nonpregnant women. The ovarian salvage rate has been reported around 10% in adults and 27% in a study among the paediatric group. The traditional recommended treatment for ovarian torsion is the removal of the ovary without detorsion. However, conservative approach should be taken as most of the women with adnexal torsion are of reproductive age. Our case is about a young female presented with ovarian torsion and was managed conservatively. Case A 24-year-old female with right sided lower abdominal pain and recent episode of vomiting presented to ER. She had typical features of PCO. The beta-hCG was negative. She was seen by the surgeons and diagnosed as acute appendix. Her WBC count was 12 000. She had laparoscopic appendectomy. After appendectomy they found a large 4-5 times twisted haemorrhagic ovarian cyst about 9 x 8 cm impacted in POD. Laparotomy was performed and ovarian tissue that was very fragile and dark coloured was distorted and warm packs applied for 15-20 min. The blackish, brown colour changed to pinkish coloration of healthy ovarian tissue, oedema and size decreased to 7 x 6 cm. The other adnexa and uterus was normal. The patient had uneventful recovery. The scan at 4 weeks showed normal right adnexa with normal Doppler studies. The patient was prescribed OCPs to avoid further cyst formation and to regulate her cycle. Conclusion At present the standard option to treat twisted ischaemic adnexa is adnexectomy without untwisting. The risk of thromboembolism was thought to be so high that oophorectomy was done for all patients regardless of age. Wagman and Williams, in a literature review, found no cases of pulmonary embolism occurring from detorsion. In our opinion even the gangrenous appearing adnexa should not be removed as just by untwisting and applying warm sponges the colour changed dramatically to normal. Every gynaecologist and paediatric surgeon should be aware of this novel option of preserving the child bearing function as an alternative of removal of ovaries in a young female patient.

Database: EMBASE

19. Ovarian torsion in children and adolescents: differential diagnosis of ovarian cysts

Author(s): Evrard A.; Nisolle M.

Source: Gynecological Surgery; Sep 2014; vol. 11 (no. 1); p. 336-337

Publication Date: Sep 2014

Publication Type(s): Conference Abstract

Available at [Gynecological Surgery](#) - from SpringerLink

Available at [Gynecological Surgery](#) - from ProQuest (Health Research Premium) - NHS Version

Available at [Gynecological Surgery](#) - from Unpaywall

Abstract: Objectives Introduction: Ovarian cysts are frequent conditions in the paediatric age group. They are characterized by different clinical presentations and by the need to establish adequate type and timing of treatment in order to prevent complications such as ovarian necrosis resulting from torsion and secondary infertility. A differential diagnosis has to be established between benign follicular cysts and neoplastic lesions or organic cysts. Methods Case report: A 12 years-old girl was admitted at the hospital with an acute abdomen presentation (pelvic pain, nausea and vomiting) associated with hyperthermia and leucocytosis, which could suggest an acute appendicitis. The measurement of -hCG was negative. Ultrasound examination demonstrated a 9 cm left ovarian cyst

with a heterogeneous content, normal flow and fluid collection in Douglas. A laparoscopy was performed in emergency. The diagnosis of ovarian torsion on a haemorrhagic corpus luteum cyst was confirmed and, after untwisting left ovary, a partial cystectomy was performed. Results Discussion: There are different group of ovarian cysts: functional cysts (follicular or corpus luteum cysts) and organic cysts. Ovarian tumours are uncommon in children. 2/3 is benign and germinal tumours are the most frequent. Mature teratomas are present in 90% of cases. Malignant tumours (malignant germ cell tumours 85%) represent only 1% of all paediatrics malignancy. Other diagnosis must be eliminated: appendiceal abscess, hydrosalpinx, extra-uterine pregnancy or uterine malformation. Conclusions Conclusions: The surgical treatment of children and adolescents presenting annexe torsion should be practiced as an emergency and it should be more conservative as possible in order to preserve the future reproductive potential. The essential objective aims to not ignore an ovarian torsion, an organic cyst or a malignancy, which all need chirurgical intervention, without operating a benign follicular cyst unnecessarily.

Database: EMBASE

20. Case report: An alternative approach to acute ovarian torsion

Author(s): Langley C.; Rahman S.; Moncreiffe L.; Tuck J.; Jayaram P.

Source: Gynecological Surgery; Sep 2014; vol. 11 (no. 1); p. 319-320

Publication Date: Sep 2014

Publication Type(s): Conference Abstract

Available at [Gynecological Surgery](#) - from SpringerLink

Available at [Gynecological Surgery](#) - from ProQuest (Health Research Premium) - NHS Version

Available at [Gynecological Surgery](#) - from Unpaywall

Abstract: Objectives This case report describes a woman of reproductive age with acute ovarian torsion who was managed with conservative surgery, in support of the growing body of evidence for less invasive surgical management of this condition. Our aims are to show that expert and timely radiological input can assist in the diagnosis of ovarian torsion, and that less invasive surgical management can be a successful and beneficial option for women with this condition. Methods Case report of acute ovarian torsion managed with laparoscopic untwisting of the affected ovary and comparison with similar case report outcomes. Results A 27-year-old woman, with a history of Polycystic Ovarian Syndrome, presented with a three day history of worsening left iliac fossa pain and vomiting. On admission she had a mild neutrophilia. Trans-vaginal ultrasound with colour-flow Doppler revealed a grossly enlarged left ovary, with reduced vascularity. Her clinical condition subsequently deteriorated, and an urgent diagnostic laparoscopy was performed. At laparoscopy a long left ovarian pedicle was noted, which had twisted three times. The left ovary was enlarged, congested and oedematous. No other pelvic pathology was identified. The left adnexa was untwisted resulting in restoration of blood flow - subsequently the ovary and fallopian tube appeared less congested. The patient was asymptomatic and discharged 24 hours later. Follow-up ultrasound four weeks later revealed a healthy, normal looking left ovary. Conclusions Ovarian torsion remains a relatively rare but potentially serious gynaecological emergency, with complications that include ovarian ischaemia, infection, peritonitis, pelvic adhesions and chronic pelvic pain. Traditionally the condition has been treated by oophorectomy of the affected ovary, with or without salpingectomy. This operation is more recently being challenged in favour of more conservative management options, such as ovarian/adnexal de-torsion with or without oophoropexy, that allow preservation of the ovary and its function. Delay in surgical correction of the torqued ovary is thought to increase the likelihood of adnexal ischaemia, with an inverse relationship between duration of symptoms and ovarian viability. Evidence is now emerging that even the grossly ischaemic-looking ovary at laparoscopy will re-gain some perfusion when un-

twisted. This case supports the growing evidence for less invasive management of acute ovarian torsion, particularly in young women of reproductive age. It supports the use of imaging by experienced radiologists using colour-flow Doppler to allow for timely diagnosis. One of the main diagnostic dilemmas is lack of consensus for imaging and clinical criteria to diagnose ovarian torsion, as history, examination and investigation findings can be vague and non-specific. Multi-disciplinary management with expert radiological input can help to delegate these patients to appropriate laparoscopic specialists, allowing for possibly less invasive surgical options.

Database: EMBASE

21. To fix or not to fix: When should laparoscopic oophoropexy be undertaken in women with recurrent ovarian torsion

Author(s): Akhtar M.; Hartley J.; Anand S.; Edi-Osagie E.

Source: Gynecological Surgery; Sep 2014; vol. 11 (no. 1); p. 199-200

Publication Date: Sep 2014

Publication Type(s): Conference Abstract

Available at [Gynecological Surgery](#) - from SpringerLink

Available at [Gynecological Surgery](#) - from ProQuest (Health Research Premium) - NHS Version

Available at [Gynecological Surgery](#) - from Unpaywall

Abstract: Objectives To investigate and recommend when laparoscopic Oophoropexy (fixation of the ovary to a pelvic anchor) should be undertaken in women with recurrent ovarian torsion. Prompt diagnosis of ovarian torsion enables ovarian conservation but this introduces increased risks of further torsion as ovaries that have undergone torsion have increased risks of recurrent torsion. There is a lack of consensus on how to manage this increased risk of recurrent torsion. Methods Case study and review of relevant literature. The index case was a 28-year-old nulliparous woman presenting with acute pelvic pain due to her third episode of right ovarian torsion presumably predisposed to by large polycystic ovaries. She had presented twice before with right sided lower pelvic pain and found to have right ovarian torsion on laparoscopy and so had undergone two previous episodes of laparoscopic untwisting of the ovaries without Oophoropexy (as no other ovarian pathology was found) in 2012 and 2013. During the index admission, she presented with similar right sided lower pelvic pain. Pelvic ultrasound suggested a 3x4cm right adnexal mass. The severity of her pain prompted emergency diagnostic laparoscopy. Medline entries from 1992 were searched with the MESH terms 'ovarian torsion' and 'Oophoropexy' and relevant articles included in the review. Results The index laparoscopy demonstrated torsion involving the right ovary and fallopian tube both of which still appeared viable with no other adnexal/pelvic pathology. The decision was taken to perform untwisting of the right adnexal torsion as well as ipsilateral Oophoropexy to potentially prevent further torsion. Detorsion of the adnexum was achieved laparoscopically and the right ovarian ligament was plicated to the right uterosacral ligament using PDS suture material. Ovarian torsion presents an acute gynaecological emergency with the potentially devastating consequence of loss of the affected ovary and so prompt diagnosis and management is essential. Recommended surgical methods to prevent recurrent torsion include suturing the ovary/pedicle to the pelvic sidewall or to the round ligament or plication of the utero-ovarian ligaments. These have however been reported to increase risks of pelvic pain and adhesions and their effectiveness in reducing recurrent torsion after one episode of torsion remains uncertain. There is evidence to support performance of Oophoropexy after two or more episodes of torsion both from published literature and as a good practice principle. Conclusions Oophoropexy is an effective surgical method to prevent recurrence after two or more episodes of ovarian torsion. Plication of utero-ovarian ligaments remains the most anatomically feasible method.

Database: EMBASE

22. Management of Isolated Tubal Torsion in a Premenarchal Adolescent Female with Prior Oophoropexy: A Case Report and Review of the Literature

Author(s): Blitz M.J.; Appelbaum H.

Source: Journal of Pediatric and Adolescent Gynecology; Aug 2013; vol. 26 (no. 4); p. 95-97

Publication Date: Aug 2013

Publication Type(s): Article

PubMedID: 23602040

Abstract:Background: Isolated tubal torsion in a premenarchal adolescent girl is a rare phenomenon. Preoperative diagnosis remains a challenge. Case: A 14-year-old premenarchal girl, with a history of bilateral ovarian torsion treated by laparoscopic detorsion and oophoropexy two years prior, presented to the emergency room with lower abdominal pain accompanied by nausea and vomiting. Pelvic ultrasound demonstrated an enlarged left adnexa. Diagnostic laparoscopy revealed an isolated left tubal torsion. Surgical evidence of previous bilateral plication of the utero-ovarian ligaments was confirmed. Untwisting of the left fallopian tube immediately restored the vascular supply. Subsequently, her symptoms resolved. Summary and Conclusion: Clinicians should consider torsion of the fallopian tube in the differential diagnosis of lower abdominal pain in all female patients. Prompt laparoscopic intervention is essential. Oophoropexy, while usually efficacious, may not prevent recurrence. © 2013.

Database: EMBASE

23. "Habitual Adnexal Torsions" -Recurrence after Two Oophoropexies in a Prepubertal Girl: A Case Report and Review of the Literature

Author(s): Sheizaf B.; Ohana E.; Weintraub A.Y.

Source: Journal of Pediatric and Adolescent Gynecology; Jun 2013; vol. 26 (no. 3)

Publication Date: Jun 2013

Publication Type(s): Article

PubMedID: 23518360

Abstract:Background: Recurrent adnexal torsion rarely affects girls. Various surgical techniques for its prevention are available. We describe a case of recurrent asynchronous bilateral torsions in a prepubertal patient. Case: An 8-year-old girl first presented with a right adnexal torsion and underwent a laparoscopic untwisting. During the following 3 years, 4 additional laparoscopies were required for treatment of left adnexal torsions. Although undergoing bilateral utero-ovarian ligament plication twice, torsion recurred. After examining the various options, we fixated the left ovary to the sidewall just below the pelvic brim. Summary and Conclusion: In the absence of clear evidence, treatment should be flexible and dependent on the individual case. Thorough patient education is imperative in order to prevent a delay in diagnosis and treatment of recurrent adnexal torsion. © 2013 North American Society for Pediatric and Adolescent Gynecology.

Database: EMBASE

24. Torsion of the ovary in an incarcerated inguinal hernia

Author(s): Pampal A.; Atac G.K.

Source: Pediatric Emergency Care; Jan 2013; vol. 29 (no. 1); p. 74-75

Publication Date: Jan 2013

Publication Type(s): Article

PubMedID: 23283269

Available at [Pediatric Emergency Care](#) - from Ovid (LWW Total Access Collection 2015 - Q1 with Neurology)

Abstract: A 2.5-month-old girl with a left-sided, painful inguinal swelling for the last 2 days was brought to the emergency department. After physical examination and radiological evaluation, the diagnosis of incarcerated inguinal hernia of the ovary was made. Because of the long-standing history, she was taken to the operation room without an attempt for manual reduction. Perioperatively, the torsion of the ovary with distal fallopian tube within the indirect hernia sac was seen. As untwisting of the ovary has resulted in no change in the color, oophorectomy before hernia repair was performed. The majority of the painful inguinal swellings in the infancy are related to incarcerated hernia. The treatment option varies from manual reduction to surgical intervention, depending on the duration from beginning of swelling to the time the exact diagnosis was made. Even though the presence of short-term history and the lack of peritoneal irritation findings are indications for a manual reduction, the suspicion of an ovarian torsion should be raised for ovaries within the incarcerated inguinal hernia, and ovarian viability should be considered before an attempt of manual reduction. Copyright © 2013 by Lippincott Williams & Wilkins.

Database: EMBASE

25. Laparoscopic management of a torsted hyper stimulated ovary

Author(s): Shakir F.; Shakir T.

Source: BJOG: An International Journal of Obstetrics and Gynaecology; Jun 2012; vol. 119 ; p. 156

Publication Date: Jun 2012

Publication Type(s): Conference Abstract

Available at [BJOG: An International Journal of Obstetrics and Gynaecology](#) - from Wiley Online Library Science , Technology and Medicine Collection 2017

Available at [BJOG: An International Journal of Obstetrics and Gynaecology](#) - from Unpaywall

Abstract: Objective: Torsion of a hyperstimulated ovary occurring after in vitro fertilisation (IVF) is rare. We present a case where the management of a patient with a torsted hyper stimulated ovary was dealt with laparoscopically. Methods: A 37 year old patient who was 8 weeks pregnant presented acutely to the emergency department with acute onset right iliac fossa pain. This was an IVF pregnancy and she had no complications prior to this episode. At presentation she had an acute abdomen and was tachycardic. A pelvic ultrasound scan was performed promptly and demonstrated a normal ongoing intrauterine pregnancy together with a cystic area around the right ovary, with minimal intra-peritoneal free fluid. The ultrasound diagnosis was a heterotopic pregnancy and the patient was placed on the emergency operating theatre list for a laparoscopy. Results: At laparoscopy no instrumentation of the uterus was made and bilateral enlarged hyperstimulated ovaries were noted. The right ovary appeared grossly enlarged with a dusky colour and areas of haemorrhage. Further exploration demonstrated that the ovary was torsted at its pedicle. Untwisting of the ovary restored its normal anatomy. The patient made a prompt recovery. The rest of her pregnancy was uneventful and she had a normal successful vaginal delivery. Conclusion: Ovarian torsion is a rare but recognised complication that can occur in pregnant patients with hyperstimulated ovaries following IVF. Assisted fertility is increasing and obstetricians and gynaecologists together with emergency department doctors need to be aware of this possible

diagnosis. Prompt diagnosis and management can lead to preservation of the ovary and no deterioration clinically. Laparoscopy together with untwisting the ovary is a simple and effective technique that should be used if appropriate.

Database: EMBASE

26. Recurrence of ovarian torsion after bilateral synchronous torsion and oophoropexy: A case report and review of the literature

Author(s): Yates M.; Brecht-Doscher A.

Source: Journal of Pediatric and Adolescent Gynecology; Apr 2012; vol. 25 (no. 2)

Publication Date: Apr 2012

Publication Type(s): Conference Abstract

Abstract:Background: In children and adolescents, ovarian torsion occurs 27.5% of the time in otherwise normal ovaries. Bilateral asynchronous torsion is reported in 11% of torsions with normal ovaries. Ovarian conservation and prophylactic oophoropexy are proposed to decrease the risk of ovarian failure. However, the optimal timing and technique for oophoropexy remains unclear. Case: We report a case of a 13 year old who presented with bilateral synchronous torsion. She underwent unilateral oophorectomy and oophoropexy of the contralateral ovary by plication of the utero-ovarian ligament. 9 months later she had recurrence of abdominal pain. After a delay of diagnosis for 5 days, she was diagnosed with recurrent ovarian torsion. She was treated laparoscopically with an untwisting of the ovary and ovarian conservation. The prior oophoropexy was clearly visible. However, the patient had no return of ovarian function. Comments: This case is remarkable for the presentation of synchronous torsion in normal ovaries and subsequent recurrent torsion after oophoropexy. This is one of few case reports of torsion after oophoropexy. This case reinforces the importance of continued education of primary providers on the signs, symptoms and ultrasound findings of ovarian torsion, and the importance of increased suspicion in patients with a prior torsion even after oophoropexy. It also demonstrates the importance of continued education of gynecologists and surgeons on the consideration for ovarian conservation in cases of torsion and the need for further research in effective methods and timing for oophoropexy.

Database: EMBASE

27. Management of ovarian torsion in in vitro fertilization pregnancy

Author(s): Chin H.; Hendricks M.

Source: Journal fur Reproduktionsmedizin und Endokrinologie; 2010; vol. 7 (no. 4); p. 306

Publication Date: 2010

Publication Type(s): Conference Abstract

Abstract:Ovarian torsion is an uncommon cause of surgical emergency in pregnancy with an occurrence of 1 in 5000 pregnancies. The incidence of ovarian torsion in in vitro fertilization (IVF) pregnancies ranges from 0.08% to 0.13%. The occurrence of ovarian torsion in ovarian cysts in pregnancy ranges from 1% to 15%. The risk of ovarian torsion associated with OHSS increases if patients become pregnant subsequently. Adnexal masses with sizes between 6 and 8 cm have a higher risk of torsion, at an odds ratio of 2.8, especially between 10th and 17th week of gestation. We report a series of 4 cases of ovarian torsion in IVF pregnancies, ranging from 6th to 13th week of gestation. All presented with iliac fossa pain of the affected side. Ovarian size ranges from 7.5 to 11.3 cm on ultrasound. Color Doppler is helpful in these cases by demonstrating lack of vascularity in the affected ovary. 2 patients experienced moderated OHSS before the index event. 1 patient underwent diagnostic laparoscopy with the affected ovary appearing necrotic after untwisting.

Decision was made for open salpingo-oophorectomy. 3 other patients underwent laparoscopic untwisting +/- cystectomy with successful conservation of the ovaries. Early recognition and prompt intervention are essential for salvage of the affected ovary. Laparoscopic technique is an effective modality of treatment with lesser morbidities to the patient.

Database: EMBASE

28. Laparoscopic management of twelve consecutive cases of ovarian torsion: Four years experience

Author(s): Olowu O.; Odejinmi F.; Hapeshi D.

Source: International Journal of Gynecology and Obstetrics; Oct 2009; vol. 107

Publication Date: Oct 2009

Publication Type(s): Conference Abstract

Available at [International Journal of Gynecology and Obstetrics](#) - from Wiley Online Library Science , Technology and Medicine Collection 2017

Abstract:Objective: To determine the outcome of laparoscopic surgery, complications and histological types in women undergoing surgery for ovarian torsion. Methods: We conducted a prospective data base cohort study of 12 consecutive emergency laparoscopic surgically proven ovarian torsion in women with radiologic and laboratory features suggestive of benign disease, from 2005 to 2008. Patients' information including demographic, clinical and ultrasound features, CA- 125 values, surgical procedures, operative and post-operative complications, estimated amount of blood loss (EBL), and the pathologic findings were recorded. Results: Twelve consecutive patients underwent emergency laparoscopic surgery for ovarian torsion. The mean (range) age was 28 (18-45 years). All cases had ultrasound features of benign ovarian cyst (measured 8-20 cm). The main clinical features included: sudden pain (100%), nausea/vomiting (7/12, 58%) and palpable abdominal mass (9/12, 75%). There is one case of 14 weeks pregnant. Median symptom duration was 3 days. Median time to diagnosis was 24 h. The diagnosis was made at surgery (100%) with clinically suspicion in 5 (42%) and sonographic suspicion/confirmation in 2 (17%) cases. Ca-125 level was normal in 83% and 17% (2) was above 35 mg/mL. Laparoscopic surgery was successful in 100% of patients. The surgical procedures performed were: untwist and ovarian cystectomy (OC) (n = 3), salpingo-oophorectomy (SO) (n = 9). The cysts were extracted using endo-bag through the lower suprapubic incision (n = 7) or the umbilical incision (n = 5). There were no operative or post-operative complications. The mean (range) operative time of 48 (35-60 min), EBL 75 (50-160 mls) and hospital stay of 24 (0-48 hours). Pathologic findings were: functional benign cysts (n = 5), dermoid (n = 5), fibroma (n = 1), Serous borderline ovarian tumor (n = 1). All nine salpingo-oophorectomies specimen are reported as haemorrhagic ischaemic necrosis. One of the three cystectomy specimen was serous borderline tumor in a woman with unusual bilateral torsion of large ovarian cysts (right SO and left untwist and OC). Conclusion: Clinical picture of ovarian torsion lack sensitivity and specificity and ultrasound diagnosis is not definitive. Laparoscopy surgery is feasible and safe for women even with large ovarian cysts torsion with benign features and results in a short hospital stay. Ovarian preservation occurred in 3 (25%) cases with demonstrable association to patient age, time to diagnosis and fertility consideration in our study.

Database: EMBASE

29. Detorsion and conservative therapy for twisted adnexa: our experience.

Author(s): Tandulwadkar, Sunita; Shah, Amit; Agarwal, Bhavana

Source: Journal of gynecological endoscopy and surgery; Jan 2009; vol. 1 (no. 1); p. 21-26

Publication Date: Jan 2009

Publication Type(s): Journal Article

PubMedID: 22442506

Available at [Journal of gynecological endoscopy and surgery](#) - from Europe PubMed Central - Open Access

Available at [Journal of gynecological endoscopy and surgery](#) - from Free Medical Journals . com

Available at [Journal of gynecological endoscopy and surgery](#) - from ProQuest (Health Research Premium) - NHS Version

Available at [Journal of gynecological endoscopy and surgery](#) - from Unpaywall

Abstract:OBJECTIVE1) To determine if detorsion of the twisted adnexa is better than traditional adnexectomy to conserve the adnexa and preserve its function. 2) To determine the feasibility of detorsion in conservation of adnexa.DESIGNProspective Study from September 2004 to September 2008.SETTINGPrivate IVF and Endoscopy Centre.PATIENTS22 patients with twisted adnexa (15 non-pregnant and 7 pregnant).INTERVENTIONSurgical intervention and either detorsion of adnexa or adnexectomy.MAIN OUTCOME MEASURESOvarian preservation and conservation of ovarian function in 77.2% cases determined by: a) Follicular development on sonography (performed for one year after adnexectomy). b) Subsequent surgery for unrelated cause showing healthy ovaries. c) controlled ovarian hyperstimulation and successful oocyte retrieval subsequently.RESULTSWe could conserve the adenexa in 77.2% cases. Laparoscopic detorsion was performed in 11/15(73.33 %) of non-pregnant women and adnexectomy done in four women 26.66%. Among the seven pregnant women, adnexa could be preserved in 6/7(85.7%) and only one woman required adnexectomy. Laparotomy was required in 2/22(9%) women both of which were in late second trimester of pregnancy. In one case (4.54%) we had recurrence of torsion. 88.23% of the women with conserved adnexa showed preservation of ovarian function.CONCLUSIONOur study showed that timely diagnosis and intervention could make the difference between ovarian loss and salvage- an outcome of great importance in population of reproductive age females. Laparoscopy with its many benefits proves to be superior to laparotomy.

Database: Medline

30. Long-term results of conservative management of adnexal torsion in children.

Author(s): Celik, Ahmet; Ergün, Orkan; Aldemir, Hakan; Ozcan, Coşkun; Ozok, Geylani; Erdener, Ata; Balýk, Erol

Source: Journal of pediatric surgery; Apr 2005; vol. 40 (no. 4); p. 704-708

Publication Date: Apr 2005

Publication Type(s): Journal Article

PubMedID: 15852284

Abstract:BACKGROUND/PURPOSEAdnexal torsion is a condition that may result in serious morbidity including adnexal removal. However, conservative management with preserving the torted adnexa is not justified, and long-term outcomes remain unclear.METHODSThe records of 14 girls with ovarian torsion whose adnexal structures were preserved after detorsion were reviewed to evaluate the long-term results of conservative management. Data including age, previous history, duration of complaints, surgical findings and type of intervention, color Doppler ultrasound findings performed in the early and late postoperative periods, and final outcomes were collected.RESULTSMean age of patients was 11.5 +/- 2.8 (range 6 to 15) years. Time interval between the onset of pain to surgery was 46.78 +/- 35.5 (range 12 to 126) hours. Seven patients had a benign solitary cyst as an underlying cause for adnexal torsion. The intervention performed by open surgery in 9 and by

laparoscopy in 5 patients included detorsion, simple cyst aspiration, unroofing and/or cystectomy in 7 patients with ovarian cysts, and oophoropexy in 9 of 14 patients. Follow-up ranged from 3 to 66 (mean 21.9 +/- 20.1) months. Thirteen patients resumed normal size and folliculogenesis, whereas in 1 patient, the involved ovary atrophied. No recurrence or contralateral adnexal torsion was observed on follow-up. **CONCLUSIONS** Conservative management with untwisting the ovary and pexing both retained detorsed and contralateral ovaries especially in idiopathic torsions should be considered in cases of ovarian torsion in children.

Database: Medline

31. Adnexal torsion in children may have a catastrophic sequel: asynchronous bilateral torsion.

Author(s): Ozcan, Coşkun; Celik, Ahmet; Ozok, Geylani; Erdener, Ata; Balik, Erol

Source: Journal of pediatric surgery; Nov 2002; vol. 37 (no. 11); p. 1617-1620

Publication Date: Nov 2002

Publication Type(s): Case Reports Journal Article Review

PubMedID: 12407550

Abstract: **BACKGROUND/PURPOSE** Adnexal torsion is a serious condition that frequently may result in ovarian removal, and there always is a risk of castration if the contralateral ovary undergo torsion as well. In this study, the authors present their experience with adnexal torsion in 15 children and describe a catastrophic event, asynchronous bilateral adnexal torsion, with review of the literature. **METHODS** Between November 1993 and November 2000, 15 children under 15 years of age who had undergone operation because of torsion of uterine adnexal structures were evaluated. Two illustrative cases with asynchronous bilateral adnexal torsion are presented. **RESULTS** Fourteen cases were associated with additional adnexal pathology, whereas in 1 case the torsion was of normal uterine adnexa. Sonographic studies improved the preoperative diagnosis. Hemorrhagic necrosis of the adnexa secondary to the torsion was found in all cases except 3 and necessitated adnexal resection. In only 3 cases preservation of the adnexa was possible. Asynchronous adnexal torsion occurred in 2 patients in the time course. Both were treated by laparotomy and adnexal untwisting and fixation by permanent multiple interrupted sutures. In their final evaluation at 40 and 8 months after the operation, they were found to have good ovarian function. **CONCLUSION** Considering the risk of subsequent contralateral torsion and its impact on future fertility, the authors believe that conservative management (untwisting the ovary and pexing, both retained detorsed and contralateral, ovaries) should be considered in cases of ovarian torsion in children.

Database: Medline

32. Laparoscopic detorsion allows sparing of the twisted ischemic adnexa.

Author(s): Cohen, S B; Oelsner, G; Seidman, D S; Admon, D; Mashiach, S; Goldenberg, M

Source: The Journal of the American Association of Gynecologic Laparoscopists; May 1999; vol. 6 (no. 2); p. 139-143

Publication Date: May 1999

Publication Type(s): Journal Article

PubMedID: 10226121

Abstract: **STUDY OBJECTIVE** To determine the safety and outcome of laparoscopic detorsion in the management of the twisted ischemic, hemorrhagic adnexa. **DESIGN** Retrospective chart review and prospective follow-up (Canadian Task Force classification II-2). **SETTING** University-affiliated

hospital. **PATIENTS** Fifty-eight women with twisted black-bluish ischemic adnexa encountered at laparoscopy. **INTERVENTION** Laparoscopic detorsion with adnexal sparing. **MEASUREMENTS AND MAIN RESULTS** All patients had a benign immediate postoperative course. Transient temperature elevation occurred in seven women (12.1%). No signs of pelvic or systemic thromboembolism were detected in any patient. Long-term follow-up included transvaginal ultrasound, which revealed follicular development in the previously twisted adnexa in 54 women; normal macroscopic appearance at incidental subsequent surgery in 9; and in vitro fertilization with retrieval of oocytes from the previously twisted side in 4. **CONCLUSION** Laparoscopic detorsion of the twisted ischemic, hemorrhagic adnexa is a safe procedure with minimal postoperative morbidity and a potential for the ovary to recuperate fully with preservation of normal function. Laparoscopic adnexa-sparing procedures should be performed in place of traditional salpingo-oophorectomy in women with this disorder who desire future fertility. (J Am Assoc Gynecol Laparosc 6(2):139-143, 1999)

Database: Medline

33. Long-term follow-up of the twisted ischemic adnexa managed by detorsion.

Author(s): Oelsner, G; Bider, D; Goldenberg, M; Admon, D; Mashiach, S

Source: Fertility and sterility; Dec 1993; vol. 60 (no. 6); p. 976-979

Publication Date: Dec 1993

Publication Type(s): Journal Article

PubMedID: 8243702

Abstract: **OBJECTIVE** To examine our assumption that although the twisted adnexa appears ischemic-hemorrhagic, it can safely be revived by detorsion with preservation of ovarian function. **DESIGN** Patients' records were obtained from a computerized database and reviewed. The preoperative diagnosis of adnexal torsion was based upon patients' symptoms, clinical examination, laboratory investigations, and ultrasound scanning. **SETTING** Gynecology department at a large teaching hospital receiving primary referrals of public sector patients. **PATIENTS** In 40 patients who presented with signs and symptoms suggestive of ovarian torsion, "black-bluish" ischemic adnexa were encountered at surgery. **INTERVENTIONS** All patients were managed by unwinding of the adnexa: laparotomy in 26 cases and operative laparoscopy in 14. In 13 patients detorsion only was performed, in 15 detorsion and cystectomy were carried out, and in 12 patients detorsion was done and ovarian cysts aspirated. **MAIN OUTCOME MEASURES** Postoperative course, mean hospitalization period, follow-up pelvic examination, ovarian folliculogenesis on ultrasound examination, and oocyte retrieval and fertilization. **RESULTS** The size of the twisted ovary ranged from 4 to 20 cm (mean, 9.5 cm). The postoperative course was uneventful, except for transient temperature elevation in five patients. The mean hospitalization period was 6.5 days (range 5 to 10 days) after laparotomy and 1.8 days (range 1 to 3 days) after laparoscopy. Three patients were lost to follow-up. In 37 patients, pelvic examination was normal. A normal sized ovary, with follicular development, was demonstrated sonographically in 35 of 37 patients. In 6 of 7 patients, macroscopically normal adnexa were visualized at subsequent laparotomy or laparoscopy. In two patients undergoing IVF, oocytes were retrieved and fertilized from the detorted ovary. The patency of the fallopian tube was demonstrated in four cases. **CONCLUSIONS** This new "adnexal-sparing" approach should be applied instead of the traditional salpingo-oophorectomy in young women with twisted ischemic adnexa.

Database: Medline

Strategy 642314

#	Database	Search term	Results
1	EMBASE	**"OVARY TORSION"/	409
2	EMBASE	(ovar* ADJ2 torsion).ti,ab	1223
3	EMBASE	("ovarian torsion").ti,ab	1058
4	EMBASE	("ovar*twist" OR "ovar* torsion").ti,ab	1079
5	EMBASE	(1 OR 2 OR 3 OR 4)	1346
6	EMBASE	(untwist*).ti,ab	1215
7	EMBASE	(5 AND 6)	53
8	EMBASE	(torsion ADJ 2 remov*).ti,ab	0
9	EMBASE	(torsion ADJ 2 unwind*).ti,ab	0
10	EMBASE	(detorsion).ti,ab	1276
11	EMBASE	(remov* OR unwind* OR correct*).ti,ab	1429435
12	EMBASE	(6 OR 10 OR 11)	1431543
13	EMBASE	(5 AND 12)	386
14	Medline	("ovarian torsion").ti,ab	646
15	Medline	(management).ti,ab	1005518
16	Medline	(14 AND 15)	153
17	Medline	(untwist*).ti,ab	799
18	Medline	(16 AND 17)	12
19	Medline	("Laparoscopic untwisting").ti,ab	6

20	PubMed	("ovarian torsion").ti,ab	685
21	PubMed	(untwist*).ti,ab	801
22	PubMed	(20 AND 21)	31