GYN-2013-0036-ver9-Agarwal_1P
Type: case-report

JOURNAL OF GYNECOLOGIC SURGERY
Volume 29, Number 6, 2013

DOI: 10.1089/gyn.2013.0036

Case Report

Recurrent Distal Ipsilateral Ectopic Pregnancy: A Case Report and Literature Review

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Abstract

Background: Ipsilateral recurrence after salpingectomy is rare, but delay in diagnosis can result in rupture and potentially life-threatening hemorrhaging. Because of the paucity of data, there are various methods by which ipsilateral recurrent ectopic pregnancies have been managed. It may be possible to decrease the incidence of such pregnancies further with complete removal of the Fallopian tubes at primary surgery. ***Case:*** This article presents a rare case of repeat ipsilateral ectopic pregnancy in the distal remnant part of the Fallopian tube following laparoscopic salpingectomy. A complete salpingectomy to remove the ectopic pregnancy and the fimbrial end of the affected Fallopian tube was performed. A brief literature review is provided regarding similar cases. ***Results:*** This patient's postoperative recovery was uneventful, and she was discharged on the following day. The histopathology results confirmed the presence of products of conception in the fimbrial end of her Fallopian tube. ***Conclusions:*** Early diagnosis and immediate management of recurrent ipsilateral ectopic pregnancy are imperative for minimizing morbidity and mortality. Every effort should be made to excise the entire affected Fallopian tube during the primary salpingectomy, so that there are no remnants that may become the sites of any possible future ectopic pregnancies. (J GYNECOL SURG 29:XX)

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Introduction

Surgery remains the method of management for the majority of women with ectopic pregnancies. The recurrence rate after a first ectopic pregnancy is 10%.[1] The recurrence risk depends on the state of the pelvis and other factors that may have contributed to the first ectopic pregnancy. Is there an iatrogenic reason for some recurrences of ectopic pregnancy? To reduce the risk of recurrence after salpingectomy, meticulous surgery with complete removal of the affected area of the Fallopian tube is essential. If the fimbrial end of the Fallopian tube is left as a remnant, not only does it increase the risk of recurrence of ectopic pregnancy but this situation may also result in added future morbidity.

Between January 2000 and April 2012, from a population of 816 women who presented with ectopic pregnancy to Whipps Cross University Hospital, London, UK, and there were 72 women with repeat ectopic pregnancy. Of these 72 women, 3 of the pregnancies were ipsilateral, of which 1 was found in the distal remnant part of the Fallopian tube.

This article presents a rare case of a repeat ipsilateral ectopic pregnancy in the distal remnant part of the Fallopian tube following laparoscopic salpingectomy.

Case

A 27-year-old, gravida 3, para 0+2, woman presented with 9 weeks of amenorrhea, severe lower abdominal pain, and dizziness. Two years earlier, in another institution, she had undergone laparoscopic salpingectomy for a left ruptured ectopic pregnancy. Her serum human chorionic gonadotropin level was 381.5 U/L and a transvaginal ultrasound scan did not reveal an intrauterine pregnancy, but there was a heterogeneous left adnexal mass measuring 35×40×41 mm with a significant hemoperitoneum. At laparoscopy, it was noted that she actually had a ruptured ectopic pregnancy in the distal remnant of her left Fallopian tube, with a 700-mL hemoperitoneum (Fig. 1). The right Fallopian tube and ovary were normal. A complete salpingectomy to remove the ectopic pregnancy and the fimbrial end of the affected Fallopian tube was performed.

◄ F1

Results

This patient's postoperative recovery was uneventful and she was discharged on the following day. The histopathology result confirmed the presence of products of conception in the fimbrial end of the Fallopian tube.

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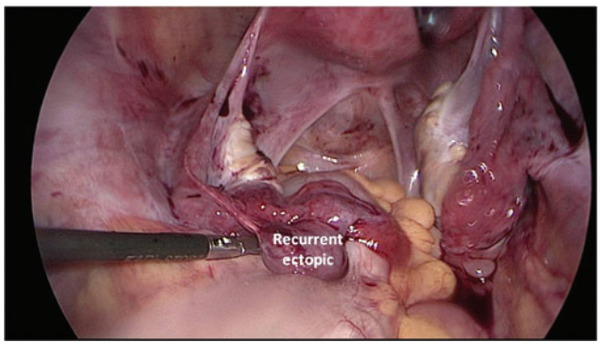

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FIG. 1. Site of recurrent ectopic pregnancies.

Discussion

In the latest report of the Confidential Enquiry into Maternal Deaths (CEMACE), in the United Kingdom, ectopic pregnancy was rated as the leading cause of early pregnancy deaths and overall the fifth most common cause of maternal deaths.[2] Between 2006 and 2008, there were 6 maternal deaths caused by ectopic pregnancies out of 11 (55%) early pregnancy deaths. The risk of recurrence of ectopic pregnancy ranges from 10% to 27% which is a 5–10-fold increase of the background risk in the general population.[3] The incidence of recurrent ectopic pregnancy is ~15%, and this rises to 30% following two ectopic pregnancies.[4] This recurrence predominantly occurs in the contralateral tube or in the proximal stump after a partial salpingectomy.

Table 1. Literature Review of Recurrent Ipsilateral Ectopic Pregnancy (EP) Following salpingectomy

First author/year & ref.	*Age (years)*	*Details*	*Treatment*
Agarwal/2012 (current case)	27	Left partial salpingectomy for EP 2 years previously Left distal stump EP	Partial salpingectomy
Malhotra/2011[11]	23	Right partial salpingectomy for EP 2 years previously Right distal stump EP	Partial salpingectomy
Sanchez Millan/2010[12]	Not mentioned	Right EP treated with methotrexate 8 years previously Right partial salpingectomy for EP 6 years previously Right EP	Methotrexate
Mohiyiddeen/2010[13]	38	Partial right salpingectomy for EP 4 years previously Right tubal stump ectopic—resection of stump 6 months later right distal EP	Excised with needle diathermy
Anwar/2010[14]	35	Right partial salpingectomy for EP 6 months previously Right proximal stump EP	Partial salpingectomy
Liu/2009[15]	28	Left partial salpingectomy for EP 5 years previously Left distal stump EP	Partial salpingectomy
Fischer/2009[16]	28	Left partial salpingectomy for EP previously Left proximal stump EP	Partial salpingectomy
Chou 2009[17]	38	Right partial salpingectomy for EP 2 years previously Proximal right stump EP	Resection of stump
	29	Right partial salpingectomy for EP 3 years previously Right distal stump EP	Partial salpingectomy
Liu/2009[18]	28	Left partial salpingectomy for EP 5 years previously Left proximal stump EP	Partial salpingectomy
Milingos/2008[19]	38	Two ipsilateral ectopic pregnancies in right tube Right salpingectomy & removal of tubal stump Right cornual EP	Removal of right uterine cornua
Chou/2008[20]	23	Right partial salpingectomy for EP 2 years previously Right distal stump EP	Partial salpingectomy

(*continued*)

Table 1. (Continued)

First author/year & ref.	*Age (years)*	*Details*	*Treatment*
Faleyimu/2008[21]	22	Left partial salpingectomy for cornual EP 5 years previously Left distal stump EP	Partial salpingectomy & oopherectomy
Tan/2007[22]	27	Left partial salpingectomy for EP 8 years previously Left distal stump EP	Partial salpingectomy
Rizzuto/2007[23]	26	Right partial salpingectomy for EP previously Right proximal stump EP.	Partial salpingectomy
Okunlola/2006[24]	30	Right partial salpingectomy for EP previously Proximal right stump EP	Right cornual wedge resection
	39	Left partial salpingectomy for EP 8 years previously Left distal stump EP	Partial salpingectomy
	28	Right partial salpingectomy for EP previously Proximal right stump EP Right cornual wedge resection	Right cornual wedge resection
Zuzarte/2005[9]	32	Partial left salpingectomy for EP 3 months previously Distal remnant EP	Partial salpingectomy
Chien/2005[25]	40	Right partial salpingectomy for EP 10 years previously Right proximal stump EP	Partial salpingectomy
Rizos/2003[26]	33	Partial left salpingectomy for EP 14 weeks previously Left cornual ectopic pregnancy	Left cornual salpingectomy
Mathew/2002[27]	25	Partial left ampulary salpingectomy for EP 4 months previously Proximal left stump EP—partial left salpingectomy Proximal left stump EP	Partial salpingectomy
Adebamowo/2000[28]	Not mentioned	Partial salpingectomy for EP 3 years previously Stump ectopic EP	Total salpingectomy Resection of corneal portion
Oki/1998[29]	32	Right partial salpingectomy for EP 3 years previously Right proximal stump EP	Partial salpingectomy
Lema/1995[30]	31	Three consecutive ipsilateral	Milking ectopic pregnancy (first, second) Partial salpingectomy (third)
Cartwright/1984[5]	16	Right partial salpingectomy for EP 4 months previously Proximal right stump EP	Partial salpingectomy

Ipsilateral EP following partial salpingectomy was first reported in 1984.[5] Even after bilateral salpingectomy, it is possible to have a recurrence in the interstitial region of the uterus.[6] In the current authors' unit, of Whipps Cross University Hospital, of the 816 patients who underwent surgical management of ectopic pregnancy, recurrence occurred in 72 (8.8%) patients of which 3 (4.2%) were ipsilateral. The literature review (see section below), shows that, although distal recurrent ipsilateral ectopic pregnancies are rare, they can still occur after salpingectomy. This should always be considered as a differential diagnosis in all patients with a previous history of ectopic pregnancy. The literature review illustrated that, of 26 cases of recurrent ipsilateral ectopic pregnancies, at least 10 cases occurred in the distal remnant part of the Fallopian tube (38.5% of reported cases).

In current authors' unit, of Whipps Cross University Hospital, 100% of haemodynamically stable women with ectopic pregnancies are managed laparoscopically, with this percentage falling to 85% in hemodynamically unstable women,[7] using either electrocautery or an endoloop, according to the most common techniques reported in use for laparoscopic salpingectomy.

Lim et al. conducted a prospective randomized controlled trial comparing the endoloop and electrocautery for surgical treatment of ectopic pregnancy in 102 patients.[8] These researchers concluded that use of the endoloop appeared to be as effective as electrocautery and was a safe alternative to

electrocautery for laparoscopic salpingectomy in tubal pregnancy. However, with either technique the entire Fallopian tube should be removed, leaving neither the proximal stump nor the distal part of the tube in order to minimize the risk of recurrence.

With respect to the etiology of repeat ectopic pregnancy in the distal stump of the Fallopian tube, it has been hypothesized that transperitoneal migration of spermatazoa or of the embryo from the contralateral side may be a reason for recurrent ipsilateral distal tubal ectopic pregnancy.[9] Again, it is therefore imperitive that, when salpingectomy is performed, all of the fimbrial end of the affected Fallopian tube be removed from its attachment to the ovary, and that the cornual ends are occluded. This should then, theoretically, reduce the risk of recurrent ectopic pregnancy in that tube.

It has been stated that secondary prevention of recurrent ectopic pregnancy is difficult because of the paucity of risk factors that can be modified.[3] However, meticulous surgery during primary operation to ensure that the entire Fallopian tube is removed can aid in preventing recurrences.

There is also increasing evidence that there is no physiologic reason to keep the fimbrial end of the Fallopian tube separated from ectopic pregnancy and the risks of pyosalpinx and hydrosalpinx. The distal end of the Fallopian tube may also be a source of origin of serous intratubal carcinoma, and the site of development of the majority of serous ovarian and primary peritoneal cancers.[10] For these reasons, leaving a remnant of the Fallopian tube following primary surgery should be a "never event."

Methods for Literature Search

For the literature review three major databases were searched, including Embase, MEDLINE,® and Cochrane databases. References of relevant articles were also hand searched, and a Google Scholar search was performed. The search results were limited to humans, and there were no language restrictions. The search terms used were extrauterine, ectopic, pregnancy, recurrent and ipsilateral (Table 1).[5,9,11–30]

Conclusions

Although recurrent ectopic pregnancy following ipsilateral partial salpingectomy is rare, it is important to maintain a high index of clinical suspicion in a women presenting with symptoms of ectopic pregnancy who has previously had a salpingectomy. Early diagnosis and immediate management are imperative for ensuring a positive outcome. In addition surgeons, should ensure that every effort is made to excise the entire tube at primary salpingectomy so that there is no remnant that may be the location of any possible future ectopic pregnancy.

Disclosure Statement

The authors certify that no actual or potential conflicts of interest in relation to this article exist.

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AU6: Ref. 18 is a duplicate of ref. 15; yet, it is listed two times in Table 1 as both refs. HOWEVER, REF. 15 says "RIGHT PROXIMAL stump" and REF. 18 says "LEFT DISTAL stump." Please supply new ref. 18. If this reference covers two cases, then please remove ref. 18 and renumber all the references in the table from that point on as well as the citations in the text. Alter the table so that the two cases are together as ref. 15.

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