RANZCOG 2021 Virtual Annual Scientific Meeting 15–18 February

Let's do the (un)twist: How are we managing adnexal torsion and why?

Vu A[1], Goh A[1,2]

[1]Department of Obstetrics and Gynaecology, Westmead Hospital, Sydney, Australia [2]The University of Sydney Medical School, Sydney, Australia

Introduction

Adnexal torsion (AT) is an uncommon emergency that should be considered in all women presenting with acute abdomino-pelvic pain[1]. While there are no guidelines for the management of AT in adults, published recommendations for paediatric patients advise detorsion only or, at most, cyst decompression if a large cyst is easily identifiable to preserve the adnexal structures and fertility [2]. In line with this, practice consensus has evolved towards ovarian conserving surgery instead of traditional salpingo-oophorectomy for women of child-bearing age[3]. The aim of this study is to determine if any clinical factors may influence surgical decision-making when managing patients who present emergently with AT.

Method

A retrospective cohort study was conducted at a tertiary hospital. All cases that had AT diagnosed at emergency surgery between January 2010 and August 2020 were included. Cases of suspected AT that did not undergo surgery or where AT was not found were excluded. Conservative surgery was defined as undergoing detorsion only, or detorsion and cyst decompression. Interventional surgery was defined as undergoing cystectomy, (salpingo)-oophorectomy, or salpingectomy. Continuous variables were summarised with median and interquartile range (IQR) and compared with a Welch's t-test. Categorical variables were compared with a chi-square test.

Results

109 cases were included for final analysis. 12 (11%) women were postmenopausal; all had interventional surgery – 11 underwent oophorectomy and 1 had a cystectomy.

Amongst the 97 pre-menopausal women with AT diagnosed at surgery, 50 (52%) had conservative surgery. In the interventional group, 16/47 (34%) underwent (salpingo)-oophorectomy. Women who had conservative surgery were statistically significantly more likely to be younger <40 years old, pregnant/up to 6 weeks postpartum or miscarriage, and have their surgery via laparoscopy **(Table 1).** Nulliparity was not associated with conservative surgery.

Women were significantly more likely to undergo laparotomy if they were older, had a history of previous abdomino-pelvic surgery and larger median maximum ovarian diameter (**Table 2**). Nulliparous women were more likely to have laparoscopic surgery.

Discussion

Conservative surgery should be encouraged to manage adnexal in women of child-bearing age. Our study suggests that although our unit performs a higher rate of conservative surgery in pre-menopausal than previously reported[4], 48% of women still had cystectomy or oophorectomy. While cystectomy can be considered as ovarian-preserving surgery, it is still traumatic and in the context of oedematous ovarian tissue where tissue planes are more difficult to differentiate, can potentially greatly reduce the number of follicles[5] or even lead to oophorectomy if haemostasis cannot be achieved.

Our study is limited by the small number of cases included for final analysis. The retrospective nature of the study is also associated with data mining issues.

References

[1]Tarraza HM, Moore RD. Gynecologic causes of the acute abdomen and the acute abdomen in pregnancy. Surg Clin North Am. 1997;77(6):1371-1394.

[2]Adnexal torsion in adolescents. ACOG Committee Opinion No. 783. American College of Obstetricians and Gynecologists. Obstet Gynecol. 2019;134:e56-63

[3]Cohen S, Oelsner G, Seidman D, Admon D, Mashiach S, Goldenberg M. Laparoscopic detorsion allows sparing of the twisted ischemic adnexa. J Am Assoc Gynecol Laparosc. 1999;6(2):139-143.

[4]White M, Stella J. Ovarian torsion: 10-year perspective. Emerg Med Australas. 2005;17(3):231-237.

[5]Somigliana E, Berlanda N, Benaglia L, Viganò P, Vercellini P, Fedele L. Surgical excision of endometriomas and ovarian reserve: a systematic review on serum antimüllerian hormone level modifications. Fertility and Sterility. 2012;98(6):1531-1538.

Table 1. Patient, presentation and surgical factors and the decision for Conservative vs Interventional surgery to manage adnexal torsion in pre-menopausal women

		Conservative surgery (N=50)	Interventional surgery (N=47)	*P-value*
Age (years)	Median (IQR)	29 (29-35.8)	28 (19.5-37)	
<20	n (%N)	8 (16%)	8 (17%)	*0.14*
20-29	n (%N)	20 (40%)	13 (28%)	*0.26*
30-39	n (%N)	18 (36%)	12 (26%)	*0.27*
40+	n (%N)	4 (8%)	14 (30%)	*<0.05*
<40	n (%N)	46 (92%)	33 (70%)	*<0.05*
Parity	Median (IQR)	0 (0-1) N=48	0 (0-1)	
Nulliparous	n (%N)	23 (48%)	25 (54%)	*0.58*
Previous torsion	n (%N)	3 (6%)	1 (2%)	*0.41*
Previous surgery	n (%N)	18 (36%)	12 (26%)	*0.28*
Pregnant*	n (%N)	15 (31%) N=49	2 (4%)	*<0.05*
Maximum ovarian diameter (mm)	Median (IQR)	74.5 (56.3-103) N=27	90 (69.8-112.8) N=30	*0.16*
MOD >50mm	n (%N)	25 (93%)	28 (93%)	
MOD >100mm	n (%N)	9 (33%)	13 (43%)	*0.16*
White cell count (^9/L)	Median (IQR)	10.8 (7.9-13.5) N=49	10.8 (9-12.8) N=47	*0.87*
Febrile at presentation	n (%N)	3 (6%) N=49	5 (11%)	*0.08*
Laparotomy	n (%N)	1 (2%)	20 (43%)	*<0.05*
Laparoscopy	n (%N)	49 (98%)	27 (57%)	*<0.05*

* "Pregnant" includes up to 6 weeks after birth or miscarriage

Table 2. Patient and presentation factors and the decision for laparotomy vs laparoscopy to manage adnexal torsion in pre-menopausal women

		Laparotomy N=28	Laparoscopy N=81	*P-value*
Age (years)	Median (IQR)	28 (21-35)	28.5 (21-36.3)	
<20	n (%N)	4 (19%	16 (21%)	<0.05
20-29	n (%N)	7 (33%)	26 (34%)	<0.05
30-39	n (%N)	8 (38%)	23 (30%)	<0.05
40+	n (%N)	2 (10%)	11 (14%)	<0.05
<40	n (%N)	19 (90%)	65 (86%)	<0.05
Parity	Median (IQR)	1 (0-1)	0 (0-1)	0.74
Nullliparous	n (%N)	9 (43%)	39 (53%) N=73	<0.05
Previous torsion	n (%N)	1 (5%)	3 (4%)	0.14
Previous surgery	n (%N)	7 (33%)	23 (30%)	<0.05
Pregnant*	n (%N)	3 (14%)	8 (11%) N=75	0.03
Maximum ovarian diameter (mm)	Median (IQR)	90 (75-133) N=16	75 (62-104) N=41	0.04
MOD >50mm	n (%N)	16 (100%)	38 (93%)	
MOD >100mm	n (%N)	8 (50%)	14 (34%)	0.09
White cell count (^9/L)	Median (IQR)	11.8 (10-13.7) N=20	10.6 (7.7-12.9) N=75	0.16
Febrile at presentation	n (%N)	4 (19%)	4 (5%) N=75	0.10

* "Pregnant" includes up to 6 weeks after birth or miscarriage