

Laparoscopic investigation for endometriosis in symptomatic adolescents Comparison of clinical characteristics between those with and without endometriosis

A. Wisentaner; K. Tanaka; R. Kimble; A. Amoako
Obstetrics and Gynaecology Department
Royal Brisbane and Women's Hospital, Australia



Introduction

- Endometriosis is a chronic, inflammatory gynaecological condition, defined by the implantation of extra-uterine endometrial tissue¹.
- Endometriosis is characterized by **pelvic pain** and **subfertility**.
- A diagnosis is made when lesions are visualised during **surgery**, ideally confirmed by histology.²
- Endometriosis affects up to **15%** of reproductive-aged women and up to **70%** of women suffering from chronic pelvic pain.³
- Despite women with endometriosis often reporting symptom onset during **adolescence**, there is limited knowledge on the **prevalence** of endometriosis in symptomatic adolescents.¹

Objectives

- To explore the **prevalence** of endometriosis in symptomatic adolescents undergoing laparoscopic investigation for symptoms of endometriosis
- To **compare the clinical characteristics** of adolescents with and without diagnosed endometriosis.

Methods

- Ethical approval: Royal Brisbane and Women's Hospital Human Research Ethics Committee
- Retrospective, observational cohort study
- Performed at a single tertiary centre in Australia.
- Figure 1:** Selection criteria
 - Subjects were identified from a surgical patient record management system.
- Demographic data collected: age at menarche, symptom onset and laparoscopy, weight at laparoscopy, pre-operative symptoms
 - Obtained from electronic medical records
- Clinical data collected: laparoscopic visualisation of endometriosis
 - Obtained from electronic medical records
- Data was analysed using descriptive statistics

Demographics	All adolescents mean (SD); range	Adolescents with endometriosis mean (SD); range	Adolescents without Endometriosis mean (SD); range
Age at laparoscopy (years)	19(1.7); 13-21	19.5(1.6); 14 - 21	19.4(1.8); 13 - 21
Weight at laparoscopy (kg)	67(16.4); 42-120	65.5 (13.1); 45.5 -120	68.4(17.2); 42-118
Age at menarche	12.4(1.6); 9 - 17	12.8 (1.7); 10-17	12(1.4); 9-15
Age at symptom onset	15.4 (3.0); 9 - 21	16 (3.0); 10-21	14.8 (2.8); 9-19

Table 1: Summary of demographic data for study population

Pre-operative symptoms	All adolescents n (%)	Adolescents with endometriosis n (%)	Adolescents without endometriosis n (%)
Pelvic Pain	152 (72)	74 (71)	78 (72)
Dysmenorrhoea	160 (75)	81 (78)	79 (73)
Menorrhagia	95 (45)	49 (47)	46 (43)
Dyspareunia	93 (44)	49 (47)	44 (41)
Irregular bleeding	68 (32)	32 (31)	36 (33)
Abnormal bleeding	46 (22)	23 (22)	23 (21)
GI symptoms	59 (28)	34 (33)	25 (23)
Bladder symptoms	16 (8)	8 (8)	8 (7)

Table 2: Summary of pre-operative symptoms for study population

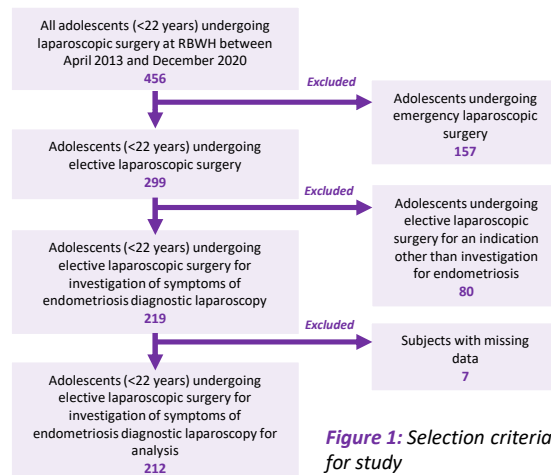


Figure 1: Selection criteria for study

References:

- Dun, E.C et al. Endometriosis in Adolescents. 2015.
- Janssen, E.B et al. Prevalence of endometriosis diagnosed by laparoscopy in adolescents with dysmenorrhea or chronic pelvic pain: a systematic review. 2013.
- Pariser, P. et al. Endometriosis; Epidemiology, Diagnosis and Clinical Management. 2017.

Results

- 212 adolescents met the inclusion criteria for the study (Figure 1)
- Patient demographics are summarised in Table 1
- Pre-operative symptoms are summarised in Table 2
- The most common indications for surgery included **chronic pelvic pain** (52%) and **dysmenorrhoea** (32%).
- A total of **104 subjects (49%)** had endometriosis visualised during laparoscopy (Figure 2).
- Endometriosis was diagnosed in 44% of adolescents with chronic pelvic pain as their primary symptom and 54% of adolescents with dysmenorrhoea as their primary symptom.
- Of adolescents with visualised endometriosis, 91 (87.5%) had lesions excised and sent for **histology**, with 73 (80.2%) confirmed for endometriosis.
- Of adolescents diagnosed with endometriosis, the mean age for symptom onset was 14.8 years (2.8 years post menarche at 12.0 years) and the mean age at diagnosis was 17.4 years (2.6 years post symptom onset).
- Of adolescents without endometriosis, the mean age for symptom onset was 16.0 years (3.2 years post menarche at 12.8 years).

Conclusion

- The study demonstrated a diagnosis of endometriosis in **half** of symptomatic adolescents undergoing investigation.
- Endometriosis should be strongly considered in adolescents presenting with pelvic pain or dysmenorrhoea refractory to medical treatment.
- There is **limited research** on endometriosis in adolescents and to our knowledge, this is the **largest study to date**.
- We analysed the clinical characteristics and presentation of adolescents with and without subsequent endometriosis diagnosis. There were **no significant differences** between the two groups, highlighting the challenges in predicting endometriosis prior to laparoscopy.

Future Research

- Further research is needed to understand the presentation of endometriosis in adolescents.
- A **follow-up study** with this cohort could identify whether there can be a delayed presentation of endometriosis on laparoscopic surgery following the onset of symptoms for some adolescents.
- In addition, **larger, multicentre, and prospective** trials are needed to improve our understanding of the clinical characteristics and presentation of adolescents with endometriosis.
- Improved understanding will allow for earlier diagnosis and management of the condition.

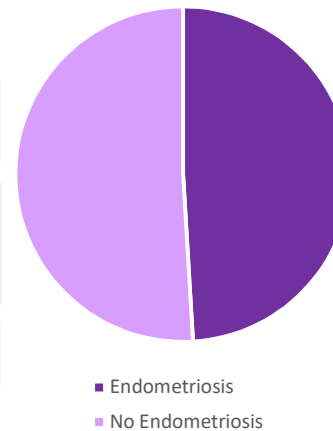


Figure 2: Endometriosis diagnosis in adolescents undergoing laparoscopy for investigation of endometriosis symptoms