Jean Hailes FOR WOMEN'S HEALTH

Healthcare Education Research

Endometriosis: diagnosis & management

An update for health professionals

Jean Hailes FOR WOMEN'S HEALTH

Endometriosis: the basics

Dr Melissa Cameron
MBBS (Hons) MPH FRANZCOG MPH MRMed
Gynaecologist & Laparoscopic Surgeon
Melbourne IVF
& Royal Women's Hospital, Victoria

Endometriosis

- 7-10% of general population
- 20-50% of infertile women
- 70-85% in women w/ CPP
- No racial predisposition
- Familial association with almost 10x increased risk of endometriosis if affected 1st degree relative

Jean Hailes

Pathogenesis

- Retrograde menstruation (Sampson)
- Haematogenous or lymphatic spread (Halban)
- Coelomic metaplasia (Meyer/Novack)
- Iatrogenic dissemination
- Genetic predisposition

Symptoms

- Variable and unpredictable
  - asymptomatic
  - dysmenorrhoea 90%
  - CPP 70%
  - deep dyspareunia 75%
  - sacral backache w/ menses
  - dysuria +/- haematuria (bladder involvement)
  - dyschezia/haematochezia (bowel involvement)
  - infertility 55%

Endometriosis and infertility

- 20-50% of infertile women
- Mechanisms of infertility
  - Direct damage to the tubes and ovaries – altering the tubo – ovarian anatomy
  - Inflammatory reaction in the pelvis affecting egg quality, fertilisation and implantation
  - Implantation affects of adenomyosis
- 50% of women will have endometriosis in a couple where the female id ovulating and the male partner has a normal SA

Endometriosis in younger women

Initial evaluation and management

Dr Janine Manwaring
MBBS (Hons), FRANZCOG
Gynaecologist & Laparoscopic Surgeon
Jean Hailes Medical Centre
Mercy Hospital
& Royal Women's Hospital, Victoria

Endometriosis - a difficult diagnosis to make?

- Average of 7 years between first symptoms and diagnosis. Due to-
  - a belief that period pain is normal (often combined with the belief that it will resolve with pregnancy);
  - a belief that endometriosis is a disease of older women - endometriosis may be present from menarche (or rarely, premenarchal);
  - non-specific symptoms that may overlap with diagnoses such as irritable bowel syndrome (IBS), PID;
  - physical examination is often normal;
  - no non-invasive diagnostic test for endometriosis;
  - lack of experience in recognising the range of appearance of endometriosis lesions at laparoscopy.

Initial evaluation of dysmenorrhoea

- A thorough history is essential –
  - it may hold the only alerts to the possibility of endometriosis as the cause.
  - A pain diary may be useful.
- Physical examination is often normal
- Investigations are often normal
  - a pelvic USS (transabdominal if VI) can demonstrate reproductive tract anomalies

Key points

- Endometriosis can occur from menarche (rarely before).
- Endometriosis and endometriosis-associated pain are stimulated by hormones, fluctuation in hormones and inflammation.
- Empiric medical therapy to reduce inflammation and hormonally suppress menstruation is helpful in treating pain and early endometriosis, and may inhibit disease progression.

Key points - 2

- Hormonal therapy can be used in adolescents after menarche without affecting their future height, bone density or fertility.
- Failed medical therapy (3-6 months) is indication for referral for laparoscopy.
- Laparoscopy should be performed by a surgeon who is experienced in recognising and treating endometriosis lesions.
- With early diagnosis and therapy, endometriosis-associated pain can be treated and hopefully future fertility preserved.

The young gynaecology patient

- Explain at the beginning of the consultation that it is your practice with every young patient to interview them firstly with their attending parent/caregiver, and then with the adult out of the room.
- When approaching the adolescent patient use of the "HEADSS" style of questioning can be helpful. It is important the young person is approached holistically and this acronym is a useful tool:
  - H home and environment
  - EA education/employment activities
  - D drugs
  - S sexuality
  - S suicide/Depression

Key questions to ask - and answers suggestive of possible endometriosis

- Age at menarche - association between endometriosis and menarche <14yo.
- Age when pain developed - Primary dysmenorrhoea often starts soon after periods become regular. Pain that begins months-years after menarche is more suspicious for a pathological cause such as endometriosis.
- Cyclicity - endometriosis-related pain often starts days before menses, worse day 1-2 (may last throughout entire period and for days after).
- Location - pain often described as low pelvic/back (may be central or more on one side), radiating to inner thighs, groins, rectum.

Key questions to ask - and answers suggestive of possible endometriosis

- Severity - adolescent dysmenorrhoea is common (>75%), majority described as mild. Endometriosis-related pain often described as severe, cramping, unbearable. Symptom severity is not related to extent of disease.
- Non-menstrual pelvic pain - present in >25% adolescents with endometriosis.
- Other pelvic symptoms - common (up to 34%), may be worse with menses
  - bowel (alternating bowel habit, bloating, dyschezia (rectal pain with defecation));
  - bladder (dysuria, frequency, urgency);
  - dyspareunia (typically deep and central).

Key questions to ask - and answers suggestive of possible endometriosis

- Treatments tried - most women will have significant symptom improvement with NSAIDs and/or hormonal therapy within 3-6 months.
- In young women whose symptoms are not controlled with medical management, laparoscopy reveals high rates of endometriosis (up to 70%). The estimated rate of endometriosis in adult women is 5-17%.
- Impact of pain on QoL - 10% of teenage girls report severe pelvic pain with a high rate of interference with daily activities
- Women with endometriosis consistently show decreased QoL scores.
- Infertility
- Family history of endometriosis - diagnosis 10x more likely if a first-degree relative has endometriosis.

Impact of endometriosis on mental health

Dr Mandy Deeks
BEd, ATCL, Grad Dip Psych, PhD, MAPS, GAICD
Psychologist
Jean Hailes Deputy CEO and
Head of Translation, Education & Communication Unit

Impact on mental health

- Higher levels of perceived stress
- Conflicting data, but general consensus - higher rates of depression, anxiety and emotional distress in women with endometriosis than women in the general population
- Pain may be a contributing factor but causal direction difficult to determine
- "Distress"; "hopelessness"; "isolation"; "frustration"; "worthlessness"; "grief"; "loss" – common descriptors

Influencing factors & impact

- **Time** to diagnosis: 5 -10 years+
- **Symptoms** including pain, heavy bleeding
- **Uncertainty:** variability of symptoms, trial & error of treatment, making sense of it…
- **Quality of life** and daily functioning
- **Fertility**
- **Relationships**, social life & identity
- **Cost:** economic, productivity

…Add in stress, fear, adversity, anticipation and anxiety likely increases pain and reduced QoL

Screening
Key message: Assess mental health

During the last month, have you:

- often been bothered by feeling down, depressed or hopeless?
- often been bothered by having little interest or pleasure in doing things?
- been bothered by feeling excessively worried or concerned?

…yes to any, requires further exploration

Management options

- Correct diagnosis and appropriate treatment goes a long way to helping mood and QoL
- Information at diagnosis & improved education for the whole community important
- Supportive relationships & understanding
- Adaptive coping strategies
- Pain: CBT for pain, exposure therapy for pain related fear, mindfulness, SNRIs may help with pain (not so much SSRIs)
- Interventions to help with dyspareunia

Jo's story – the patient experience

Case study: Peta

- Peta is a 16yo girl attending the GP for advice regarding her period pain.
- She has been brought in by her mother Judy, who is concerned about the impact that pain is having on Peta's schoolwork and extracurricular activities.

Peta- history

- 16yo year 11 student
- No medical/surgical issues, fully immunised, no allergies.
- Menarche 12yo, periods became regular and painful from 14yo. Bleeds for 6 days, cycle length 27 days.
- During period
  - severe pain across lower abdomen and back (8/10)
  - Occasional vomiting/fainting
  - Headache
- Unrelated to period
  - Stabbing pains in abdomen,uncomfortable bloating not related to periods (4-5/10)
- Tried paracetamol but prefers bed/heat pack.
- Missing 1-2 days of school each month, as well as morning swimming training.
- Mother had terrible periods & endometriosis and is very concerned

Further history to elicit

- **Gynae**: uses 4-6 pads/day. No abnormal bleeding or discharge. Never sexually active. No acne/hirsutism.
- **Urinary**: no bladder problems
- **GIT**: bowels erratic with more constipation around period, can get bloated with stabbing pains at any time. No dyschezia
- **Other**
  - No change in weight or appetite. Exercising less because often missing swimming training (pain and fatigue).
  - Doing well at school but is finding it harder to keep up with the missed schoolwork, and worried about how she is going to manage VCE.

The rest of Peta's history…

once mum has left the room

- Good relationship with parents but worried/annoyed about her mother constantly telling her about all the problems that she had with endometriosis.
- She hopes to do very well in VCE and go to uni, but is getting
- Very stressed about managing her schoolwork/homework due to sick days. She doesn't think that she is depressed.
- She swims 3-4 days a week
- She is not in a relationship & has never had sex.
- Heard about girls using the Pill for period pain but worried about this causing health and fertility problems.
- She doesn't smoke/recreational drugs, 1-2 drinks at parties.

Diagnosing endometriosis

- A **pain diary** is very useful
  - documenting symptoms, activities and school attendance
- **Differential diagnoses:**
  - symptoms arising from GI, GU, musculoskeletal systems
  - Mullerian tract abnormalities with menstrual outflow obstruction
  - psychosocial factors
- **Physical examination**
  - abdominal exam is frequently normal;
  - pelvic exam is inappropriate if VI (if performed, may only reveal tenderness in posterior fornix).
  - Can pass a "Q-tip" to demonstrate a patent lower reproductive tract

Investigations

Laboratory studies

- pregnancy test
- FBC, ESR – ?acute/chronic inflammatory process
- Urinalysis and urine culture can help identify a urinary tract cause of pain.
- sexually active teenager – Chlamydia screen
- CA 125 is not helpful due to the high rate of false positives.

Ultrasound

- rule out a reproductive tract anomaly, ovarian cyst/torsion and appendicitis
- good at detecting endometriomas - rare in adolescents
- **a negative ultrasound does not exclude the diagnosis of endometriosis**

Next steps in evaluation and management

- Examination is unremarkable.
- Investigations - Hb 128, TSH and urinalysis normal. Coeliac screen pending. Transabdominal USS - NAD.
- Recommend a pain diary
- Discuss concerns around pain - impact on functioning now/future; plus Judy's concerns about endometriosis
- Empirical treatment with NSAIDs +/- hormonal therapy will relieve symptoms for most young women. There is no evidence to show that successful medical symptom management leads to a delayed diagnosis/progression of endometriosis.

Empirical treatment

Prostaglandin synthetase inhibitors (NSAIDs)

- useful for dysmenorrhoea by decreasing circulating prostaglandins and hence pain.
- NSAIDs taken on a scheduled basis, using adequate doses, commenced a day or 2 before the expected onset of menstruation.

Combined oral contraceptive pill (COCPs)

- work in 2 ways:
  - the dominant progestin effect leads to atrophy of both ectopic and eutopic endometrial tissue
  - by inhibiting ovulation COCs lead to a decreased prostaglandin synthesis
- Use of COCPs in adolescents is not associated with loss of bone mineral density or reduced adult height.

Initial management

- Regular NSAIDs 1/12
- Advised to keep a symptom diary.
- On review:
  - mild reduction in her pain with her periods (5-6/10 on 1st 2 days of bleeding),
  - no change in her non-menstrual pain.
  - missed 1 day of school and 3 swimming sessions.
- Peta & her mum agree to a trial of continuous COCP plus NSAID for 3 months.

3 months later….

- Several days of PV spotting and erratic pain during the first 2 months of the COCP
- No bleeding in the last month
- Bleeding-related pain has gone,
- Episodic pelvic pain and bloating (up to 5/10)
  - because of episodic nature, harder to pre-emptively use NSAIDs
  - she has had to go home early from school once.
- Feeling tired/stressed about exams next month, although she has missed less school so more confident.
- Overall she is happy no period for a month and less activities affected by pain.
- She will continue with the treatment, look into some relaxation techniques and return for review in 3 months.

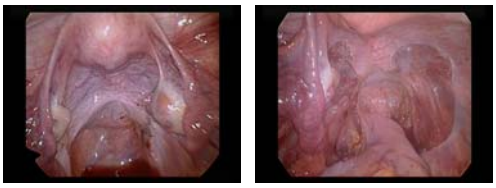
January of year 12….

- Continued episodic cramping pelvic pain (up to 6/10) at least once a week despite amenorrhoea on continuous COCP and regular NSAIDs.
- She passed Year 11 exams but with lower marks than she hoped for.
- She and her family are beginning to feel anxious about her ongoing pain and impact on her schooling.
- You refer Peta for a laparoscopy.

Surgical management

- Laparoscopy - gold standard for diagnosis
- Lesions in adolescents - often subtle, minimal/mild.
- Severity of symptoms does not correlate with stage of disease.
- Surgery has been shown to reduce pain.
- The laparoscopist should be experienced in identifying lesions, and be able to treat them.
- Laparoscopy is associated with an approximately 3% risk of minor complications, such as nausea or shoulder tip pain. The risk of major complications (bowel perforation, vascular damage) is between 0.6/1000 and 1.8/1000.
- Reported re-operation rates for pain relapse are higher than 50% in the adult population;
- Post-op medical therapy has been shown to improve quality of life with pain reduction, prolong time between operations and potentially preserve fertility.

At laparoscopy



Diagnosis

- Endometriosis involving both uterosacral ligaments and extending into the right pararectal area. All this is excised.
- Widespread vesicular change -biopsied.
- Remainder of pelvis - normal.
- Biopsies confirm endometriosis.
- Uneventful recovery from laparoscopy and returns to school in 1 week.

Post-operative medical management

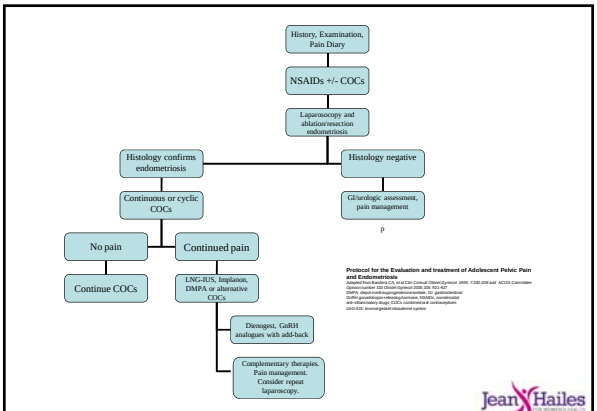
- **Important adjunct to surgery**
  - treats lesions that could not be surgically removed such as microscopic foci and
  - possibly prevents endometriosis progression.
  - inhibition of prostaglandin synthesis, decidualisation and atrophy of residual tissue.
- **Several medical therapy options**
  - individualised to the patient (+/- need for contraception).
- **Regular review**
  - Pain rating (visual analogue pain scores can be useful) both menstrual and pelvic
  - ability to participate in activities; school, work and extra curricular.

Post-operative medical management 2

- NSAIDs, simple analgesia as required.
- Combined oral contraceptive pills (COCPs)
  - COCPs give better cycle control than progesterone-only pills (POP).
- Progestins
  - include oral (norethisterone 15mg/day; medroxyprogesterone acetate (MPA) 30-50mg/day); etonogestrol implant; Depot-MPA; levonorgestrel intrauterine system (LNG-IUS).
  - all cause decidualisation and atrophy of endometrial tissue; variable effect on HPO axis and oestradiol levels.
  - common side effects: breakthrough bleeding, acne, weight gain, headaches and mood fluctuations.
  - DMPA associated with a decrease in bone mineral density

Follow up

- Over 12 months Peta remains amenorrhoeic on continuous COCP.
- Pelvic pain is minimal & bowel symptoms have resolved.
- Her energy is improving, and she is not missing any of her school or sport requirements.
- Still stressed about studies, and future problems because of endometriosis.



Case study: Peta part 2

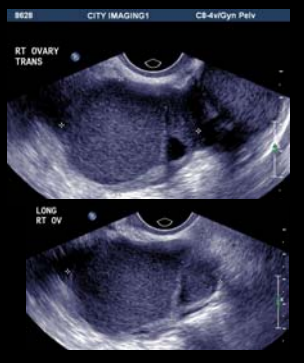
- Peta is now 33 years old
- She has been trying to conceive for 9 months
- She has:
  - regular cycles
  - pain with periods
  - debilitating
  - deep dyspareunia
  - some dyschezia

Investigations

- SA
- AMH
- D21 Luteal Phase Bloods
- TFT
- Ultrasound

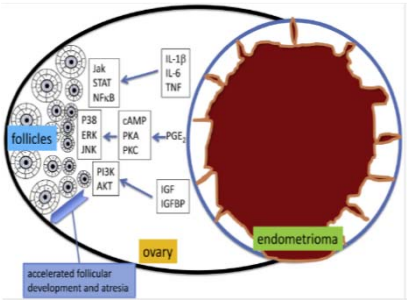
Abnormal anatomy: ovary

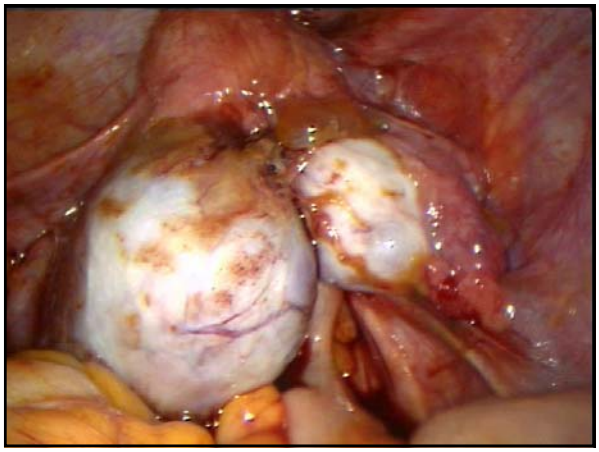
- Ground glass appearance
- Thick walled
- Uni- or multilocular
- Multiple lesions
- Kissing ovaries
- Hyperechogenic wall foci
- Wall nodularities
- Acoustic enhancement
- Absence of internal vascularity
- 'shifting' content
- (No acoustic streaming)
- Do not regress



Bulun, SE. Ovarian endometriosis: the nemesis of eggs

Fertil Steril 2014; 101 (4): 938-939





Issues to consider

- When do we operate?
- How do we operate?
- What are the chances of conception post surgery?
- AMH post operatively
- When is IVF the next step?

Jean Hailes

Jean Hailes FOR WOMEN'S HEALTH

Questions?