Case Report

Asherman's syndrome – an important clinical update

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Abstract

Asherman's syndrome is a gynaecological condition that can present with a myriad of symptoms, making it diagnostically challenging. Patient outcomes can be significantly altered with targeted and timely investigation and intervention. It is hoped that increased awareness surrounding this condition will contribute to better patient outcomes.

Keywords: Asherman's, Infertility, Pelvic pain, Gynaecology

Introduction

The patient is a 36-year-old G2P2 female with a complex gynaecological history, including a previous diagnosis of Asherman's syndrome. She presented to an outpatient clinic with complaints of increasing pelvic pain, intermenstrual bleeding and subfertility. The patient detailed a 12-month history of increasing pelvic pain. She also reported intermenstrual bleeding, lasting up to one week. The patient reported that her menstrual flow had significantly decreased over the last 12 months. The patient and her husband had a strong desire to have a third child and the ongoing implications of Asherman's syndrome could be seen to have a significant emotional impact on the couple.

Background

- P1: Spontaneous vaginal delivery at K37, third degree tear repaired, retained products with hysteroscopy dilation and curettage, post partum haemorrhage 1.5L with transfusion.
- P2: Threatened preterm labour at K32, elective LUSCS at K35 due to preterm labour
- Hysteroscopy dilation and curettage 2011 for complaints of pelvic pain and amenorrhea – diagnosed with Asherman's syndrome
- Pap smears up to date, never abnormal
- Hx chlamydia 1999- treated

Physical examination

A limited physical examination was performed in the outpatient clinic as the treating consultant deemed it unnecessary to subject the patient to an intimate examination given the need for further invasive testing.

Abdominal examination was unremarkable. Vaginal examination findings from a recent GP consultation were noted; they included generalised tenderness in both adnexa; no masses were felt and no cervical motion tenderness elicited. The results initial investigations are presented in Table 1.

Table 1. Results of Mrs. P's initial investigations

Investigations	
b-HCG	<5
Pelvic USS (TA and TV)	Diffuse slightly increased vascularity throughout myometrium. Endometrial stripe 1mm. Calcification in endometrial cavity – may reflect prior inflammation or Asherman's.
TFTs	Normal
Iron studies	Normal

Diagnosis

A provisional diagnosis of recurrence of Asherman's syndrome was made. Differential diagnoses included endometriosis, dysfunctional uterine bleeding which encompasses a multitude of causes, easily remembered using the FIGO pneumonic "PALMCOEIN" (see Figure 1), and infection.

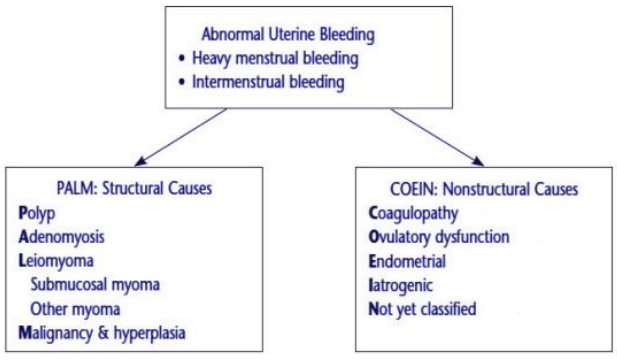

Figure 1. FIGO mnemonic for abnormal uterine bleeding. [10]

Management

The three issues of priority in this case were: pain, bleeding and fertility.

With these issues in mind, it was necessary to proceed with targeted investigations in attempt to confirm the diagnosis of Asherman's syndrome as a cause for subfertility and menstrual changes.

The patient was sent for the following investigations:

- Hysterosalpingogram (HSG) to assess the uterine cavity, fallopian tubes and endometrium [3]. The patient was advised that this investigation is best performed in the early proliferative phase of her menstrual cycle. The procedure carries 75% sensitivity and a positive predictive value of 42.9% for Asherman's syndrome [3].
- Day 21 progesterone level: to assess whether ovulation is occurring. The test is done at the expected time of ovulation [9]. A level above 20-25 nmol/L confirms ovulation [9]. A low level can indicate anovulatory cycles or incorrect timing of the test [9]. If a low result is received, the patient is advised to re-test in the next cycle with two separate measurements one week apart [9].
- Hysteroscopy dilation and curettage: direct visualisation of the uterine cavity is the most appropriate way to diagnose Asherman's syndrome and is used as an adjunct to a HSG [8]. The procedure is both diagnostic and therapeutic as division of adhesions can be performed concurrently. Postoperative high dose oestradiol is recommended for 6 weeks to encourage endometrial growth over the areas of deficient endometrium followed by progesterone during the 6th week with a withdrawal bleed to follow [8]. Simultaneous laparoscopy was also discussed with the added benefit of investigating for other causes of infertility.
- A high vaginal swab, FBC and CRP were ordered to rule out infection as a cause for the patients' symptoms9.
- The patient was encouraged to continue with simple analgesia – non steroidal anti-inflammatories are advised for pelvic pain of reproductive origin given that the pain associated with menstruation is prostaglandin mediated [9].
- The patient was scheduled for a review in outpatient clinic for 6-8 weeks postoperatively to check for resolution of symptoms and withdrawal bleed from progesterone.

Outcome

The patient underwent investigations as outlined in the management plan above. The results of her hysterosalpingogram showed irregularity of the endometrial cavity with a filling defect at the corneal part of the uterus. Findings were consistent with a diagnosis of Asherman's syndrome. Day 21 progesterone levels were 58nmol/L indicating that her cycles were ovulatory and that subfertility was not a result of anovulatory cycles. Hysteroscopy with division of adhesions was performed and the prescribed course of oral oestrogen and progesterone completed. The patient reported a withdrawal bleed and improvement of her pelvic pain. She was subsequently given conception counselling and scheduled for a further check up in outpatient clinic.

Discussion

Incidence

The true incidence of Asherman's syndrome is unclear, however, estimates suggest figures range between 6-40% post dilation and curettage and up to 7% as a cause in cases of secondary amenorrhea [1, 5]. Many cases of Asherman's syndrome are undiagnosed and therefore it is difficult to assess the true incidence of the condition. The reported incidence varies greatly depending on the classification system used, and the suggested aetiology. An example of a classification system developed by the American Fertility Society is given below in Table 2.

Table 2. American Fertility Society classification of intrauterine adhesions. [11]

Extent of cavity involved	**<1/3 (1 point)**	**1/3-2/3 (2 points)**	**>2/3 (4 points)**
Type of adhesions	Filmy (1 point)	Filmy and dense (2 points)	Dense (4 points)
Menstrual pattern	Normal (0 points)	Hypomenorrhoea (2 points)	Amenorrhoea (4 points)
Stage 1 – mild	1-4 points		
Stage 2- moderate	5-8 points		
Stage 3- severe	9-12 points		

*The scores from each category are added together to give a total score indicative of the severity of intrauterine adhesions***.**

Risk factors

Table 3 shows the risks factors for the development of Asherman's syndrome or intrauterine adhesions. Interestingly, the development of Asherman's syndrome is most commonly related to iatrogenic trauma to the endometrium [2]. A study published in 1982 showed that women who underwent uterine curettage were at high risk of developing intrauterine adhesions, particularly those who underwent curettage between the second and fourth post partum weeks [1-2]. Curettage after miscarriage was shown to have the highest association with the development of Asherman's syndrome2. One suggested way to group the risk factors for Asherman's syndrome is to place the possible causes under the following headings: mechanical and iatrogenic complications, pathophysiological disturbance and idiopathic causes [11].

Table 3. Risk factors for Asherman's syndrome.

Miscarriage curettage
Post partum curettage
Caesarean section
Trophoblastic disease evacuation
Infection (genital tuberculosis)
Diagnostic curettage
Abdominal myomectomy
Uterine artery embolization
Hysteroscopic surgery
Insertion of IUD
Uterine compressive sutures for post partum haemorrhage

Mullerian duct malformation

Clinical features

The clinical presentation of Asherman's syndrome varies greatly. Women may present to gynaecology clinics with manifestations ranging from menstrual irregularity, dysmenorrhea and subfertility to pregnancy complications [5].

History should be aimed at identifying risk factors for the condition including previous infections such as pelvic inflammatory disease, iatrogenic complications, obstetric complications and a history of genital tuberculosis [1].

Clinical examination in patients with Asherman's syndrome is most often unremarkable [2]. A thorough history and examination should be performed on all patients presenting with similar complaints. Basic investigations should include haematological testing (including full blood count, beta HCG), and pelvic ultrasound9. A suggested physical examination would include detailed general examination including assessing for lymphadenopathy, an abdominal examination palpating for masses, ascites or organomegaly, a vaginal speculum exam and a bimanual exam9. A rectal examination should be considered if clinically indicated, as the pouch of douglas for example, best felt on the anterior rectal wall, is implicated in endometriosis9. A detailed history and examination should provide assistance in narrowing down differential diagnoses. Key points that suggest Asherman's syndrome are those outlined in the clinical features above, particularly; a change in menstrual pattern, specifically reducing flow or absent menses, cyclical pelvic pain and fertility concerns [2].

Treatment

There is currently a lack of evidence to support any one treatment method being superior to another in the management of Asherman's syndrome. In general, the management principles involve lysis of the intrauterine adhesions followed by promoting regrowth of the endometrium [11]. Due to the lack of consensus on treatment regimes, the management is currently purely clinician dependent.

The lysis of intrauterine adhesions is performed during hysteroscopy with caution taken not to cause further trauma to the endometrial basal layer [8]. Lysis is primarily undertaken in symptomatic patients presenting with infertility, recurrent pregnancy loss, and pelvic pain [8]. In those patients who do not desire fertility or who are asymptomatic with intrauterine adhesions, there is no clinical indication to perform lysis [8].

One of the main concerns with Asherman's syndrome is the recurrence of adhesion formation after treatment. The case example given above exemplifies this complication. Up to 50% of patients will suffer from reformation of adhesions after hysteroscopic lysis [4]. There are several methods available to prevent reformation of adhesions, however none have been proven to be more superior [4].

As demonstrated in this case, oestrogen can be used to promote regrowth of the endometrium [11]. Oestrogen is given for between 30 to 60 days depending on the severity of adhesions, followed by progesterone to induce a withdrawal bleed and recommence the menstrual cycle [11]. It is thought that oestrogen helps to restore growth of normal uterine lining and subsequently prevent further scar tissue forming [11].

Other methods used to prevent recurrence of adhesions include barrier devices such as intrauterine devices (IUD), paediatric foley catheters and intrauterine balloons6. More recently, studies have been conducted into the use of anti-adhesion barriers including spray gels and sheets such as those used during laparoscopy [8]. There are several different compounds available including hyaluronic acid gel and sodium hyaluronate (Seprafilm™) [8]. Studies have demonstrated increased pregnancy rates and decreased adhesion formation in the context of adhesion barrier use and Asherman's syndrome [8]. These studies are promising, but there is a lack of significant confirmatory data to support the proposed advantage of their use as treatment for Asherman's syndrome.

Conclusion

Asherman's syndrome can be a very distressing condition in the setting of desired fertility and is known to have a significant impact on female reproduction. Hence, it is extremely important to ensure continuing awareness of the causes, clinical presentation and treatment. Increased awareness will ensure early recognition and management of the condition and provide support and advice to those patients who wish to conceive despite this diagnosis.

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