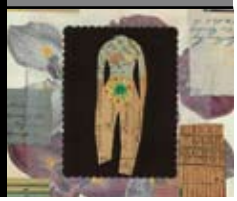

Pelvic pain in the female adolescent patient

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BACKGROUND
Many causes of pelvic pain in adolescent women are similar to adult women. However, there are some specific problems that relate to obstructive congenital anomalies, and acute pelvic pain, caused by ovarian torsion, is also more common in this age group.

OBJECTIVE
This article discusses the approach to the assessment of pelvic pain in adolescent women and outlines causes that are specific to this patient population.

DISCUSSION
Despite the many similarities in the aetiology of pelvic pain, there are some critical differences in the approach and management of adolescents that need careful consideration. Establishing good communication, clarifying the issues around confidentiality, and understanding the requirements for gaining valid consent are essential. Undertaking a general health risk screening is invaluable to understanding of some of the broader social issues that may be impacting on the pain, as well as increasing your understanding of the impact that the pain is having on the patient's life. These issues will impact on your capacity to successfully manage the young woman, and her presentation with pelvic pain.

To make an assessment of pelvic pain in any woman requires taking a careful history, undertaking appropriate examinations and investigations, including gaining consent for these and any operative procedures. Undertaking this process with an adolescent encompasses the same principles but is complicated by a few additional features.

Establishing rapport with adolescents can be difficult. Some investigations may not be appropriate in this age group, and gaining consent to undertake operative procedures requires an understanding of the legal requirements for consent. Although many of the causes for pelvic pain are similar in adolescent women as for adult women, there are a few conditions that are specific to adolescents. The focus of this article is on tackling the issues that are pertinent to adolescent women.

Communicating with adolescents

Effective communication with adolescents can be challenging, as any parent of a teenager will tell you. The presence of a parent may compromise the capacity of the teenager to honestly answer some questions particularly regarding sexual activity; lack of experience in having medical consultations on their own, with embarrassment about discussing periods and related issues, and concerns about possible clinical examination may make the teenager unduly anxious; and fears regarding possible disclosure of information to others including parents may impede their willingness to talk openly. To overcome these difficulties it is worth establishing at the beginning of the consultation some important principles.

Privacy and confidentiality

If a parent is present, it is easier to establish at the beginning of the consultation that you always spend some

of the time with the young person without the parent. This is preferable to realising during the consultation that you would like to ask some questions without the parent present and then needing to find an excuse to ask them to leave.

There is clear evidence that teenagers are more likely to be open and disclose information if you outline the principles of confidentiality.[1] Additionally indicating to the young person that confidentiality cannot be guaranteed where there is a risk of serious harm to self or others, serious criminal activity, psychosis and where there has been sexual or physical abuse.

Taking a history

In the context of pelvic pain there are many necessary questions relating to biological or medical details (eg. family history of endometriosis, past medical history relating to previous surgery, renal tract or other congenital anomalies), but there is also a need to take a broader psychosocial history. Establishing good rapport increases the likelihood of being able to explore relevant issues and can be achieved by using a structure such as HEADSS (*Table 1*).[2] The HEADSS health risk screening tool allows you to start with less threatening topics such as home and housing, progressing through to the opportunity to identify school and family stresses, and identify risk behaviours such as alcohol intake and sexual activity. Valuable information is gathered that contribute to your understanding of the impact and the potential aetiology of pelvic pain. A young person who is unhappy at school and being bullied may be avoiding school for this reason, with periods making a 'good excuse' rather than being the 'real' reason. This structured process also enables you to appreciate the developmental stage of the young person, and therefore her capacity to understand and consent to investigations and tests that you may need to consider.

Examining and investigating teenagers

Many teenagers are anxious about attending doctors for pelvic and vaginal symptoms for fear of genital and vaginal examination. Early reassurance that the young person has the final say with respect to what, if any, examinations will be done, may be important to reduce anxiety. Before any genital examination valid consent is required. Even where a parent gives consent on a teenagers behalf, utmost care should be taken to explain the procedure to the young person and proceed with the examination only with the young persons assent. This applies to genital and breast examination as well as vaginal and speculum examination, although clearly the latter are not appropriate in the younger teenage group, and if deemed essential would need to occur under general anaesthetic. An older teenager who is sexually active may be comfortable to undergo a vaginal and speculum examination – but this should not be presumed, nor undertaken unless explanation and consent is gained. Except in a medical emergency, genital examination should not be undertaken in the absence of valid consent.

Table 1. HEADSS assessment

This is a useful framework for history taking in adolescents, commencing with the least threatening topics. Framing the questions in a broad manner and avoiding questions that require a 'yes' or 'no' answer is important

Home or housing
Education and employment
Activities
Drugs
Sexual activity and sexuality
Suicide and depression screen

Valid consent must be voluntary, informed and based on the capacity of the individual to consent and is not solely related to age. Legislation with regard to the capacity of adolescents to give consent varies in different states. Adolescents can consent as long as they have the capacity to understand the information and the implications of the procedure to which they are consenting. The capacity to give consent is generally accepted for those aged over 16 years. For minors, ie. less than 16 years of age, the Gillick principle may apply. This refers to the legal precedent established in the United Kingdom, that children less than 18 years of age who satisfy the test of competency can validly consent to their own medical treatment without parental consent.[3] This mature minor principle has also been confirmed in Australian common law by the High Court of Australia: 'parental power to consent to medical treatment on behalf of a child diminishes gradually as the child's capacities and maturity grow. A minor is capable of giving informed consent when he/she achieves a sufficient understanding and intelligence to enable him/her to understand fully what is proposed'.[4]

Decision making capabilities vary with both intelligence and experience, and assessment of maturity must take into account their cognitive and emotional understanding of a situation, their capacity to weigh up options and consequences (both positive and negative), their ability to express their wishes, their capacity to make decisions in other areas, and whether they are living independently or are self supporting. Conditions that affect the capacity to give consent include intellectual disability and mental illness.

Communication of the results of the examination – both abnormal and normal – should be explained to the young woman to the extent of her understanding. Discussion regarding management options must involve the young person – and care needs to be taken that her confidentiality

is maintained if this discussion involves a parent who was absent during some of the consultation. Planning with the adolescent what components of the consultation will be discussed with the parent ensures that confidentiality and trust is maintained.

Causes of pelvic pain specific to adolescents

Gynaecological causes of pelvic pain that need to be considered include dysmenorrhoea, ectopic pregnancy, pelvic inflammatory disease and endometriosis. It is worth considering screening for chlamydia routinely in all sexually active teenagers, as there is evidence that prevalence is highest in the 25 years age group.[5]

Nongynaecological causes of pelvic pain need to include interstitial cystitis and irritable bowel syndrome.

Dysmenorrhoea

Period pain classically begins either a few days before menses or with the onset of menstruation. As prostaglandins and inflammatory cytokines play an important role in mediating the process of shedding endometrium 'prostaglandin' induced symptoms such as nausea, vomiting, change in bowel habits, lethargy and headaches are frequently present. The use of nonsteroidal anti-inflammatory drugs (NSAIDs) or hormonal approaches to alter the endometrial environment are the mainstay of dysmenorrhoea management.

Additionally, the recognition that retrograde menstruation occurs in almost all women means that pelvic pain symptoms linked to voiding and defaecation occurring at the time of menses may reflect free blood in the pelvis and associated peritoneal irritation. Efforts to reduce menstrual loss with the use of tranexamic acid, NSAIDs, or the oral contraceptive pill (OCP) may provide valuable reduction in these symptoms.

Endometriosis

Endometriosis can occur in teenagers. In the presence of ongoing symptoms not responding to the OCP or continuous OCP (where several periods are missed by skipping the sugar pills), then careful pelvic ultrasound and consideration of laparoscopy may be appropriate. Care needs to be taken with making this diagnosis, as a negative outlook on pelvic pain and future fertility may be established. Other causes of pelvic pain, and factors that may contribute to pain such as stresses and past physical and sexual abuse need to be considered.

Congenital anomalies

Most obstructive genital tract anomalies will be diagnosed within a few months to years of the onset of menses. Most obstructive congenital anomalies will be diagnosed within a few months to years of onset of menses. The true incidence of mullerian duct anomalies is not known. In fertile women, the rate has been estimated at over 3%.[6]

Imperforate hymen and transverse vaginal septum

In this condition, pubertal development is present, but the young woman is still premenarchal. Intermittent lower abdominal pain is often mistaken as constipation, or the presence of suprapubic mass leads to presentation. With gentle pressure on this lower abdominal mass, while viewing the perineum, the hymen will be seen to bulge if this is an imperforate hymen. Surgical intervention with a stellate incision into the hymen will be necessary.

In the absence of a hymenal bulge, this is likely to represent a transverse vaginal septum. Referral to a specialist in paediatric and adolescent gynaecology may be appropriate as management is more complex for successful resolution.

Ultrasound for both an imperforate hymen or transverse vaginal septum demonstrates a central pelvic mass, and may also demonstrate a haematometra as well as haematocolpos. Occasionally these findings are incorrectly reported as an 'ovarian cyst' (*Figure 1, 2*).

Uterine didelphys with obstructed hemivagina

In this condition, menses occurs with drainage from one side, but accumulation on the other side causes increasing, atypical dysmenorrhoea – with pain worsening during the menses and lasting beyond the end of the period. Ultrasound demonstrates a collection (often not recognised as a blood filled vagina). An absent kidney on the same side is usually diagnostic. Excision of the vaginal septum using a vaginal approach relieves the obstruction (*Figure 3*).

Noncommunicating rudimentary uterine horn with an endometrial cavity

This condition will cause cyclic pain due to retrograde menstrual loss arising from the noncommunicating uterine

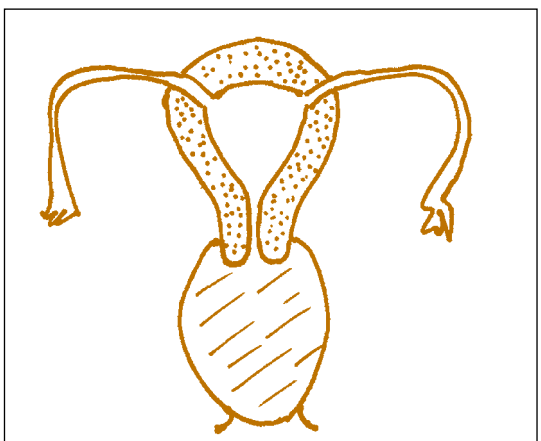

Figure 1. Imperforate hymen

cavity. The other horn can be normally draining. Ultrasound may identify this more readily than laparoscopy – unless a careful hysteroscopy is performed at the same time, and recognition that a solitary tubal ostia only is visible in the communicating cavity. Management is operative removal of the rudimentary horn – although this can be delayed with menses suppressed in the interim (*Figure 4*).

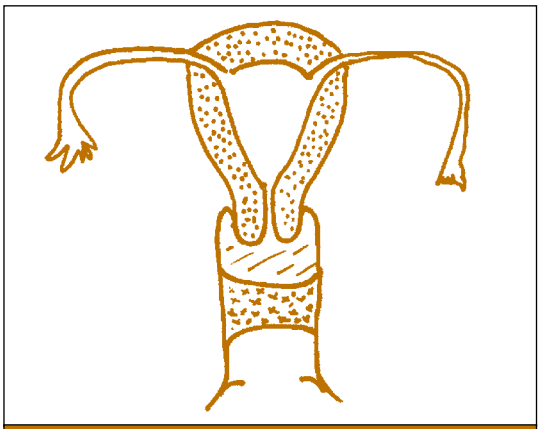

Figure 2. Transverse vaginal septum

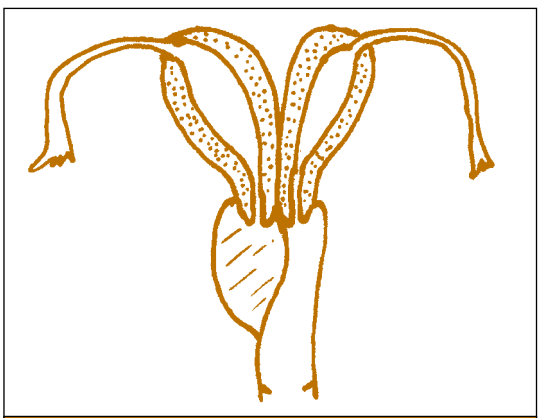

Figure 3. Uterine didelphys with an obstructing longitudinal vaginal septum

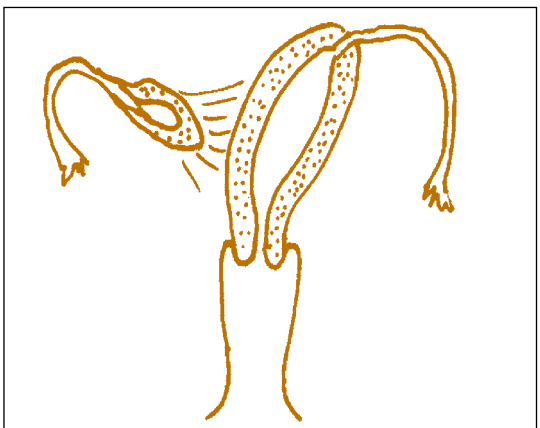

Figure 4. Rudimentary noncommunicating cavitated uterine horn

Ovarian torsion

Ovarian torsion occurs more frequently in adolescents than in adults. Often there is considerable delay in presentation and identification. Presentation is usually of pelvic pain, often somewhat colicky in nature, with associated nausea, vomiting and dizziness. It is very uncommon for a normal ovary to undergo torsion, so an ultrasound to establish if the ovary is enlarged or cystic is useful. Blood flow studies of the ovary have limited value and the presence of flow does not exclude a torsion. In the presence of an enlarged ovary, with significant tenderness, there is little option but to consider an ovarian torsion and undertake a diagnostic laparoscopy. There is now evidence that even an ischaemic looking ovary may have viable tissue and therefore can be managed conservatively. Subsequent demonstration of follicles on ultrasound confirms that this conservative approach of untwisting the torsion and removing the cyst is valuable and may have a role in optimising future fertility. There is no clear evidence to guide management with regards to fixation of the ovary or the contralateral ovary.

Conclusion

Ensuring that you establish good communication with the young woman is essential for successful management of her pelvic pain. Acknowledging and interacting with her at her level of understanding, and acknowledging her autonomy and confidentiality are all essential components of care. Undertaking a general health risk screening is important both to elucidate some of the broader social issues that may be impacting on the experience of pain, as well as understanding of the effect that the pain is having on the young woman's life. These issues will impact on your capacity to successfully manage the young woman and her presentation with pelvic pain.

Conflict of interest: none declared.

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