Faculty of Sexual and Reproductive Healthcare
Clinical Effectiveness Unit

A unit funded by the FSRH and supported by Sandyford

MEMBER'S ENQUIRY RESPONSE

Enquiry Reference: 2697

Sent: 25.6.09
Prepared: 25.6.09

A: Question

What methods of analgesia or cervical anaesthesia have been used successfully for insertion of an intrauterine device (IUD or system (IUS)?

B: Response

The CEU recommends that the need for pain relief during insertion of intrauterine contraception should be discussed with the woman in advance and administered appropriately. The experience of pain can be related to expected pain and cervical resistance. The incidence of pain during IUD/IUS insertion is greatest among nulliparous women, women aged over 30 years, those for whom it is more than 6 months since their last pregnancy and women who are not breastfeeding.

Commonly used analgesics during IUCD insertion are NSAIDs, topical lidocaine (Instillagel) and intracervical local anaesthetic blocks. There is currently insufficient evidence to determine the most effective type of analgesia, the most effective way of administering a local anaesthetic cervical block or the most effective method of preventing or treating cervical spasm.

The CEU has found no role for glyceryl trinitrate (GTN) sublingual spray as an agent for reducing pain or cervical spasm on insertion of an IUD or IUS. Misoprostol has also been investigated as a cervical priming agent but larger studies are required before use can be recommended.

C: Evidence-Based Medicine Question (which guided our literature search strategy)

Population: Women undergoing intrauterine device/system insertion

Intervention: Analgesia

Outcome: Efficacy, safety

Keywords: **IUD, IUS, analgesia, local anaesthetic, cervical, block, spasm**

D: Information Sources

The CEU searched the following sources in developing this Member's Enquiry Response

Source Searched	Information Identified
Existing FSRH and RCOG guidance	See below
The National Guidelines Clearing House	No relevant information
The United Kingdom Medical Eligibility Criteria for Contraceptive Use (2005/2006) The United Kingdom Selected Practice Recommendations for Contraceptive Use (2002) The World Health Organization Medical Eligibility Criteria for Contraceptive Use (2008) The World Health Organization Selected Practice Recommendations for Contraceptive Use (2008)	See below
The Cochrane Library	No relevant information
MEDLINE and EMBASE from 1996 to 2009	See below

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E: Evidence Reviewed

Background

There are nerve endings present within the endometrial mucosa and the cervix uteri. The region of the functional internal os has a richer nervous supply than the rest of the uterus. The nerve supply to cervix and uterus is from S2-4 parasympathetic nerves and the uterine fundus is innervated from the ovarian plexus. Therefore intracervical anaesthesia will not block the fundal innervation of the uterus.

CEU guidance recommends that the need for pain relief during insertion of intrauterine contraception should be discussed with the woman in advance and administered appropriately.(1) An awareness of cervical local anaesthetic methods is a syllabus requirement for LoC IUT and yet there is a wide variation in techniques and how doctors deal with this issue. Tolcher discussed the variation in techniques in IUCD fitting practices in a survey of 36 doctors and the pros and cons of offering the different forms of anaesthesia.(2) Of those surveyed, 16.7% used instillagel routinely, 72.2% “sometimes” and 42% indicated this was the only method of analgesia they provided. 11% all trainers said they used analgesia rarely or never despite it being available in the service in which they worked.

Around 50% of women experience some degree of pain at intrauterine contraceptive insertion. Pain is greatest among nulliparous women, women aged over 30 years, those for whom it is more than 6 months since their last pregnancy and women who are not breastfeeding.(3) Pain can be related to expected pain and cervical resistance (4). It may arise from the passage of a speculum, application of tenaculum, instrumentation of the cervical canal, dilatation of the cervical canal and internal os, passage of the sound and then the IUCD or cramps post insertion.(5,6) Pain consists of a short cervical component (less than 3 minutes) and a longer fundal component. Immediate pain has been found to be greater than pain at 3 minutes and avoiding excessive uterine manipulation resulted in lower immediate and later pain scores.(4)

Evidence around the use of pain relief for intrauterine contraceptive insertion is very limited. The lack of evidence is reflected in wide variation in practice both internationally and within the UK. Methods used to reduce pain and facilitate IUD insertion include oral analgesia, topical local anaesthetic and local anaesthetic injection (paracervical or intracervical block).

Oral Analgesia

A recent high-quality randomized trial shows that pre-emptive analgesia with ibuprofen 400 mg is ineffective in preventing insertion-related pain.(3) Ibuprofen was equally ineffective in subgroups of women who had not had children.(3) The minority of women who experience pain after insertion can be offered NSAIDs such as ibuprofen, although evidence suggests that this treatment regimen is unlikely to improve discontinuation rates in women who cite pain as a reason for removal.(1,7)

Topical Local Anaesthetic

In a survey, topical local anaesthetic gel was the most commonly used method of anaesthesia for IUD insertion.(2) In the UK the product Instillagel (lidocaine 2% with chlorhexidine) is commonly used with or without an “Instillaquill” device for administering gel into the cervical os. Topical lidocaine gel has been shown in small randomized studies to reduce pain caused by tenaculum placement.(4) It has been suggested that local anaesthetic gel may ease IUD insertion due to lubrication and distension of the cervix. Concerns have been expressed about the risk of introducing infection into the uterine cavity when using Instillagel(5), but there is no evidence to suggest that rates of infection are increased. The efficacy of local anaesthetic gel may be dependent on an optimal time between application and treatment. A study of topical local anaesthetic in colposcopy patients suggested that the optimal time ranged from 4 to 20mins (mean 4-5mins). (9). A randomized trial compared lidocaine gel with lidocaine paracervical block for analgesia during oocyte retrieval. Although pain associated with administration of anaesthetic was less with lidocaine gel, paracervical block was associated with less overall pain.(10)

Local Anaesthetic Injection

The two main techniques for cervical local anaesthesia (LA) are paracervical and intracervical block. There is wide variation in how these techniques are described. They are usually performed using a dental syringe with a 27G needle. The local anaesthetic drugs lidocaine, mepivicaine (Scandonest) or prilocaine (Citanest) may be used with or without a vasoconstrictor.

Paracervical block is regional anaesthesia of the inferior hypogastric plexus and ganglia (11) produced by injection of LA into the cervicovaginal junction either laterally at 3 and 9 o'clock positions(12), or 4 and 8 o'clock (10), or circumferentially at four points, e.g. 3, 5, 7, and 9 o'clock positions(13). Intracervical block is generally described as a deeper injection into the cervical stroma. Descriptions vary from injection into the anterior wall of the cervix only (12), to circumferential injection at four positions of the clock(13). The success of paracervical block is reported to be variable and it has been suggested that intracervical block may be a more reliable technique. A study has recently been conducted comparing both techniques during surgical abortion but the results have not yet been reported. (13)

There is good evidence to suggest that cervical LA block effectively reduces the pain associated with hysteroscopy(14) and colposcopy treatment (15,16,17). Although the findings of these studies can probably be extrapolated to IUD insertion, the CEU could not find any direct evidence to indicate whether LA is of benefit or which technique should be used. Guillebaud has recommended using 1ml 1% lignocaine intracervically at the anterior lip of the cervix at 12 o'clock, with a small subgroup of patients possibly benefiting from additional lignocaine (up to 10ml total) injected through the cervical canal into the cervix, close to the internal cervical os at about 3 and 9 o'clock.(18)

Cervical Priming / Relaxing Agents

There is some evidence to suggest that misoprostol may be useful for facilitating IUD insertion by softening the cervix and reducing the chance of complications such as perforation, pain and bleeding. A randomised controlled trial similarly suggests that misoprostol is useful in facilitating IUD insertions, with insertions significantly easier when compared with controls, although the confidence interval was wide (p=0.039, CI -0.013-39.99).(19) The risk of IUD expulsion does not appear to be increased.(20) This evidence is from small studies, with small numbers of women and a large randomised control trial would be needed in order to assess its overall efficacy and the optimal regimen.

It should be noted that misoprostol is not available as a gel or pessary designed for vaginal use. It is available only as tablets designed for oral administration. However, these tablets are widely used by the vaginal route in the context of medical abortion. This use is outside the product licence.

There are anecdotal reports of the use of GTN sublingually as smooth muscle relaxant if the os is tight (5), but it is not licensed for this purpose and there are no controlled comparative studies. The related drug isosorbide mononitrate has been investigated as a cervical priming agent for use prior to surgical abortion.(21,22) It was less effective than prostaglandins in reducing cervical resistance and there was a high incidence of side-effects, particularly headache.

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