



## Invited Editorial

## Analgesia for outpatient gynaecological procedures



Minor gynaecological procedures are increasingly moving from day case operating theatres to the outpatient setting. Procedures that are performed in the outpatient setting include diagnostic and operative hysteroscopy (polypectomy or morcellation of small fibroids), cystoscopy (injection of Botulinum Toxin A or urethral bulking) and colposcopy (large loop excision of transition zone).

Technique is essential to minimise all movements within the patient so as to reduce discomfort and, at times, local anaesthesia is considered. Pain is rare but is still the commonest adverse event and reason for procedure abandonment [1]. There are no published guidelines for the optimal method of pain relief in these procedures. It is common practice, however, to administer chlorhexidine and lidocaine gel prior to cystoscopy, whereas hysteroscopy and colposcopy do not usually require this. If dilatation of the cervix or excision of the cervix is required, then a local anaesthetic with a vasoconstrictor is commonly injected at 2 to 4 points on the cervical face. The vasoconstrictor is usually pre-mixed with the anaesthetic to maintain local anaesthesia in the desired area. It also has the benefit of reducing blood loss. The commonest vasoconstrictor utilised is adrenaline but with the palpitations, anxiety and other vasomotor symptoms which can arise secondary to it alongside the limited support available in the outpatient setting, some gynaecologists are moving to alternate vasoconstrictors such as vasopressin analogues (eg. felypressin) which have fewer side-effects, particularly cardiac and metabolic.

There are substantial health and economic benefits to be gained from operating without general or regional anaesthesia, such as avoidance of anaesthetic complications, shorter recovery time and reduced overall costs.

Placement of a single-toothed tenaculum on the anterior lip of the cervix precedes many of these uterine procedures, to facilitate stabilisation and traction of the uterus. This alone is known to cause pain [2]. Different methods of reducing this pain have been studied and found to be effective. The commonest is paracervical block [2] and others include lidocaine-prilocaine cream applied via cervical cup 30 min before procedure [3] or 10% lidocaine spray to the cervix [4]. Strategies developed to reduce pain include conducting hysteroscopy utilising a 'vagoscopic approach', performed without a speculum or tenaculum and using normal saline as a distension medium instead of carbon dioxide. [5]

Pain during hysteroscopy, once the hysteroscope has entered the uterus, is secondary to passage of the hysteroscope through the cervical canal, uterine distension and possibly spill of distension fluid into the peritoneum, causing peritoneal irritation [6]. Endometrial destruction and release of prostaglandin from such endometrium may be responsible for the delayed pain 30 min after the procedure [6]. Greater pain is experienced if a procedure such as endometrial

biopsy, polypectomy or ablation is performed. A systematic review and meta-analysis of 39 randomised control trials has looked at the efficacy of different pharmacological and non-pharmacological interventions used in women undergoing hysteroscopy. The outcome of this study showed that misoprostol plus intracervical block anaesthesia was the most successful in lowering this pain when compared with placebo, followed by misoprostol alone then intravenous analgesia [6].

For those wishing to avoid pharmacological methods of analgesia, alternatives have been found to be effective. Bladder distension has been shown to reduce intra-hysteroscopy pain. It is hypothesised that straightening of the angle between the cervix and uterus due to pressure from the distending bladder provides a less traumatic passage through the cervical canal [7]. TENS machines have also been found to provide effective analgesia [6].

As for post-procedure pain relief, misoprostol plus intracervical block provided the best pain relief for the 30 min immediately after the procedure. Oral analgesia was found to be the best analgesia at more than 30 min post-procedure [6]. This supports the practice of recommending post-operative oral analgesia.

Satisfaction with outpatient treatment at colposcopy is generally high. Some women can find the application of dilute acetic acid, cervical biopsies and endocervical curettage uncomfortable [2]. A Cochrane review of 19 randomised controlled trials which included 1720 women revealed that there was no difference in pain relief in patients who received oral analgesics, local anaesthetic infiltrations administered as paracervical or direct cervical injection or placebo; however, the evidence was considered to be of low to moderate quality [8].

Urogynaecology is the latest gynaecological subspecialty to move treatments further into the ambulatory setting. Various procedures can be performed under local anaesthesia, including vaginal wall repairs, cystourethroscopy with injection of Botulinum Toxin A, or urethral bulking injections. Advances in small-gauge flexible cystoscopies and finer needles for intravesical injection of Botox have reduced intra-operative pain and furthered this cause [9]. When the urethra is narrowed, dilatation up to a point can be performed with just local anaesthesia. Various distraction methods during cystoscopy have been studied and real-time visualisation of the procedure was found to be the most effective analgesia and improved patient satisfaction, followed by a combination of real-time visualisation and music, followed by music alone [10]. These methods are a low-cost addition to a clinical setting, yet are able to evoke measureable reductions in pain and anxiety. Depending on the underlying bladder pathophysiology, such as recurrent cystitis, where the bladder may be significantly inflamed, simple distension of the bladder for a cystoscopy may be painful with local anaesthesia and require a general anaesthesia.

In conclusion, outpatient procedures are becoming more and more the norm in gynaecology. It is important to consider both pharmacological and non-pharmacological approaches to pain relief when undertaking these. Managing patients' expectations, understanding their unique needs for pain control and having a range of options available will continue to allow us to perform these with high levels of patient satisfaction.

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### References

- [1] G. Ahmad, et al., Pain relief in office gynaecology: a systematic review and meta-analysis, *Eur. J. Obstet. Gynecol. Reprod. Biol.* 155 (1) (2011) 3–13, <https://doi.org/10.1016/j.ejogrb.2010.11.018>.
- [2] R.H. Allen, E. Micks, A. Edelman, Pain relief for obstetric and gynecologic ambulatory procedures, *Obstet. Gynecol. Clin. N. Am.* 40 (4) (2013) 625–645, <https://doi.org/10.1016/j.ogc.2013.08.005>.
- [3] G. Liberty, et al., Lidocaine-prilocaine (EMLA) cream as analgesia for hysterosalpingography: a prospective, randomized, controlled, double blinded study, *Hum. Reprod.* 22 (5) (2007) 1335–1339, <https://doi.org/10.1093/humrep/del517>.
- [4] A. Davies, et al., Lignocaine aerosol spray in outpatient hysteroscopy: a randomized double-blind placebo-controlled trial, *Fertil. Steril.* 67 (6) (1997) 1019–1023.
- [5] E. Cicinelli, Hysteroscopy without anesthesia: review of recent literature, *J. Minim. Invasive Gynecol.* 17 (6) (2010) 703–708, [https://doi.org/10.1016/s0015-0282\(97\)81433-1](https://doi.org/10.1016/s0015-0282(97)81433-1).
- [6] N.K. Ghamry, et al., Evaluation and ranking of different interventions for pain relief during outpatient hysteroscopy: a systematic review and network meta-analysis, *J. Obstet. Gynaecol. Res.* 46 (6) (2020) 807–827, <https://doi.org/10.1111/jog.14221>.
- [7] C. Celik, et al., The effect of uterine straightening by bladder distention before outpatient hysteroscopy: a randomised clinical trial, *Eur. J. Obstet. Gynecol. Reprod. Biol.* 180 (2014) 89–92, <https://doi.org/10.1016/j.ejogrb.2014.06.029>.
- [8] K. Gajjar, et al., Pain relief for women with cervical intraepithelial neoplasia undergoing colposcopy treatment, *Cochrane Database Syst. Rev.* 7 (7) (2016) Cd006120, <https://doi.org/10.1002/14651858.CD006120.pub4>.
- [9] B.L. Cohen, et al., Safety and tolerability of sedation-free flexible cystoscopy for intradetrusor botulinum toxin-a injection, *J. Urol.* 177 (3) (2007) 1006–1010, discussion 1010 <https://doi.org/10.1016/j.juro.2006.10.050>.
- [10] S. Gupta, et al., Distraction during cystoscopy to reduce pain and increase satisfaction: randomized control study between real-time visualization versus listening to music versus combined music and real-time visualization, *Urol. Ann.* 11 (1) (2019) 33–38, [https://doi.org/10.4103/ua.Ua\\_191\\_17](https://doi.org/10.4103/ua.Ua_191_17).

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