LAPAROSCOPIC HYSTERECTOMY

SUMMARY RECOMMENDATIONS

Notes on PROSPECT recommendations

PROSPECT provides clinicians with supporting arguments for and against the use of various interventions in postoperative pain based on published evidence and expert opinion. Clinicians must make judgements based upon the clinical circumstances and local regulations. At all times, local prescribing information for the drugs referred to must be consulted.

Grades of recommendation (GoR) and levels of evidence (LoE)

GoRs are assigned according to the overall LoE on which the recommendations are based, which is determined by the quality and source of evidence: Relationship between quality and source of evidence, levels of evidence and grades of recommendation.

Summary recommendations

Although considered less painful than open abdominal hysterectomy, laparoscopic hysterectomy requires standardised postoperative pain management, particularly in the early postoperative period.

Recommended: Pre- and intra-operative interventions • Unless otherwise stated, 'pre-operative' refers to interventions applied before surgical incision • Unless otherwise stated, 'intra-operative' refers to interventions applied after incision and before wound closure • Analgesics should be administered at the appropriate time (pre- or intra-op) to provide sufficient analgesia in the early recovery period	
Paracetamol and NSAID/COX-2-selective inhibitor	**A combination of paracetamol and NSAID/COX-2-selective inhibitor is recommended unless there are contraindications (Grade A), based on the origin and the type and duration of pain after laparoscopic hysterectomy as well as the available evidence of an opioid-sparing effect from procedure-specific RCTs (LoE 1)**

Dexamethasone	**A pre-operative, single dose of dexamethasone, administered intravenously, is recommended (Grade A) for its ability to decrease analgesic use and act as an antiemetic (LoE 1)**
	• **Effective doses seemed to be in the range of 8–10 mg (LoE 1)**
	• **Even though the timing of dexamethasone administration has not been specifically investigated in the setting of laparoscopic hysterectomy, evidence from visceral abdominal surgery suggests that early administration after anaesthetic induction may offer the best anti-emetic (Wang 2000), anti-inflammatory, and analgesic effects (Zargar-Shoshtari 2009)**
Epidural analgesia	**Epidural analgesia provides pain relief for patients undergoing laparoscopic hysterectomy (LoE 1), but it should be considered a reserve intervention (Grade D) because surgery is now often performed on an ambulatory basis and less invasive modalities are adequate for managing pain in most patients**
General anaesthesia	**General anaesthesia is the standard of care for laparoscopic hysterectomy, and from an acute pain standpoint, choice of maintenance anaesthetics has no detectable effect on postoperative pain (LoE 1). The main determinants for choosing the maintenance anaesthetic agents are patient-related, such as cardiovascular comorbidity and the risk of PONV (Grade D)**
Surgical techniques	**No recommendations are made regarding surgical techniques, which are chosen based on anatomical and patient-centred factors, with postoperative pain scores playing a lesser role**
	However, evidence suggests that low inflation pressure or humidified and heated CO_2 may decrease shoulder-tip pain, but not abdominal pain (LoE 1)

Recommended: Post-operative interventions • Unless otherwise stated, 'postoperative' refers to interventions applied at or after wound closure • Analgesics should be administered at the appropriate time (pre- or intra-op) to provide sufficient analgesia in the early recovery period	
Paracetamol and NSAID/COX-2-selective inhibitor	**A combination of paracetamol and NSAID/COX-2-selective inhibitor is recommended unless there are contraindications (Grade A), based on the origin and the type and duration of pain after laparoscopic hysterectomy as well as the available evidence of an opioid-sparing effect from procedure-specific RCTs (LoE 1)**
Opioids	**Opioids are recommended as rescue analgesia, postoperatively (Grade C)**
	Observational studies suggest that most patients after laparoscopic hysterectomy require opioids as rescue drugs for a median of 4 days (As-Sanie 2017) (LoE 3)
	There is insufficient evidence to specifically recommend one opioid over another
Epidural analgesia	**Epidural analgesia provides pain relief for patients undergoing laparoscopic hysterectomy (LoE 1), but it should be considered a reserve intervention (Grade D) because surgery is now often performed on an ambulatory basis and less invasive modalities are adequate for managing pain in most patients**

Interventions that are NOT recommended	
Pregabalin	**Pregabalin is not recommended (Grade A) as although pregabalin has potential opioid-sparing effects, it may be associated with side effects precluding its widespread use, especially at higher doses (LoE 1)**
Alpha-2 adrenergic agonists (Dexmedetomidine)	**Dexmedetomidine is not recommended (Grade D, LoE 4) due to limited and inconsistent procedure-specific evidence of analgesic benefit**
Ketamine	**Ketamine is not recommended (Grade D, LoE 4) because of a lack of procedure-specific evidence**
IV lidocaine	**IV lidocaine is not recommended (Grade D, LoE 4) because of a lack of procedure-specific evidence**
TAP blocks	**TAP blocks are not recommended (Grade D, LoE 4) as procedure-specific evidence is inconsistent**
Intraperitoneal instillation of local anaesthetic	**Intraperitoneal instillation of local anaesthetic is not recommended (Grade A) as procedure-specific evidence showed no clinically significant benefit (LoE 1)**
Port site infiltration	**Port site infiltration is not recommended for laparoscopic hysterectomy (Grade D) as there is no supporting procedure-specific evidence, although significant benefit has been demonstrated for this intervention for laparoscopic cholecystectomy (Barazanchi 2018)**

OVERALL PROSPECT RECOMMENDATIONS

Perioperative pain treatment for laparoscopic hysterectomy should include, unless contraindicated:

Perioperative interventions in time to secure analgesia in immediate postoperative period
• Paracetamol • NSAID OR COX-2 selective inhibitor • Single dose of dexamethasone, intravenously
Postoperative period
• Paracetamol and NSAID or COX-2 selective inhibitor • Rescue opioid