HMC EM Evidence-Based Clinical Algorithm: Analgesia in Undifferentiated Abdominal Pain

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Evidence basis:
- Manterola C. The use of analgesia for acute abdominal pain does not mask clinical findings, nor does it delay diagnosis. Cochrane Library database of systemic reviews; published online 19 Jan 2011; accessed 13 Sept 2015.

This EBCA:
- has been endorsed by HMC EM and other consultants for education and assistance with clinical practice in HMC’s EDs.
- is intended to complement any related multispecialty Clinical Practice Guideline prepared as per HMC policy.
- is not presented as the binding “standard of care” but is rather a reference tool to inform clinical judgment.

Algorithm aim & applicability:
This algorithm applies to patients in whom, after a brief initial evaluation, there is no clear explanation for abdominal pain (i.e. there is “undifferentiated abdominal pain”) and in whom pain severity is judged sufficient to warrant analgesia. The EBCA is not aimed at cases where there is a very likely working diagnosis that dictates pain medication should be either aggressive (e.g. renal colic) or cautious (e.g. abdominal aortic aneurysm). The EBCA aims to guide analgesia provision in an effective yet judicious manner.

If appropriate (e.g. not already tried at home, no severe hepatic disease):
paracetamol 1 g IV (may be repeated in 6-8 h)

*Adjudicating pain severity
- Assessment of pain severity should rely heavily on patient-expressed (not clinician-assigned) judgment.
- If patients want something stronger than paracetamol, they should nearly always receive it.
- Judgments on pain severity should be informed by patient age, gender, or origin only with the aim of assuring that we don’t undertreat. Using any patient characteristics to discount patient-expressed pain severity is both biased and clinically wrong.

Is the pain severity* high enough to warrant (more) analgesia?
Yes
No
Continue to monitor and give analgesia prn

Is there concern for hypotension?
Yes
No

morphine 0.05-0.1 mg/kg (repeated q30’ to max 0.2 mg/kg)**
- in truly undifferentiated pain: lower dosing preferred
- if develop strong suspicion of renal colic:
  - start with 0.1 mg/kg and give 0.05 mg/kg in 10’
  - co-administer injectable NSAID

fentanyl 0.5-1.0 mcg/kg (repeated q15-20’ to max 3 mcg/kg)**
- lower doses are inherently safer & less controversial
- avoid therapies that compound risk (e.g. midazolam)
- clinically effective half-life about 20 minutes/dose:
  - re-dose earlier rather than later (minimizes dosage)
  - transition to longer-acting agents when safe

**Notes on analgesia approach in undifferentiated abdominal pain
- This EBCA is for undifferentiated abdominal pain. When certain diagnoses are clinically very high-likelihood, therapy may be different (e.g. high-dose morphine plus NSAID for ovarian cyst pain).
- All medications should always be given intravenously. There is little or no role for IM or SQ analgesia in patients with significant degrees of pain in the ED.
- This EBCA does not aim to reproduce all contraindications and risk profiles of the medications involved. Clinicians should use judgment when selecting and dosing pain medications.
- In patients who may need general surgery operative intervention, NSAIDs should be avoided.