Proposed Non-operative Management (NOM) of Appendicitis during Covid-19 epidemic

Rationale: To limit potential transmission of Covid-19 and preserve resources, it is necessary to deflect admission of certain conditions, such as appendicitis, which are traditionally managed in house but in fact could be safely managed in the field hospitals or in outpatient setting. NOM of appendicitis is increasingly adopted throughout the world, including the US. Its use in one study over time increasing from 4-24% of cases. At ANMC we have not adopted routine NOM for appendicitis but concerns for added risk of Covid-19 transmission and/or infection to these pts may tip the scale. These concerns should be discussed with pts and family members, especially if pt transfer to ANMC is deemed necessary.

Pros	Cons
90 % respond well to NOM	10% fail NOM
Decreased or same pain score	Failure not predictable
Decreased narcotic requirement	30% eventually require appy within 4-7 mo.
Quicker return to work	At 5 yr f/u 39% require appy
No increased perf rate	Many studies compare to open appendectomy
Decreased overall complication rate (6.5 vs.24%)	Many trials exclude high risk pt (immunocompromised, co-morbidities, pregnant, elderly)

Note on inclusion/exclusion criteria: The literature is highly variable regarding this and while criteria for inclusion are expanding so is the incidence of failure of NOM.

Inclusion criteria

Uncomplicated appendicitis: non-perf, no phlegmon, no free air, appendix diam <11 mm.

No fecolith (not absolute but probably increased rate of failure)

Adult or child > 6 yr

+/- Non-pregnant pts (many studies exclude pregnant pts)

+/- Sx <48 hrs

+/- phlegmon or small abscess <3cm (these pts may respond but usually take 3 days for sx resolution,

i.e. expanded criteria for tx failure, and planned interval appendectomy at 8 weeks should be considered)

+/- high risk pts (immunocompromised, co-morbidities, hx abx resistant bacteria, age >70. Most studies exclude these patients but in the setting of Covid-19 we would consider including them.)

Exclusion criteria

Hemodynamically unstable

Diffuse peritonitis

Abscess > 3 cm (literature actually says 5 cm but support for this is sparse and in our practice >3 cm would be IR drained, i.e admitted to ANMC)

+/- phlegmon or small abscess

+/- pregnant pts

+/- high risk pts

Non-operative Abx Regimen for appendicitis

See flow chart last page.

Supportive care:

IV fluids as needed until tolerating po.

Anti-emetics as needed.

Multimodal pain management with scheduled acetaminophen, NSAIDs, limited narcotics.

(Restrict Toradol to 2 doses in case appendectomy is required.)

Hospital admission is generally done for 24-48 hrs but outpatient management and discharge from the ED is possible if Q24h dosing regimen is selected and pt responds quickly.

Failure of Abx therapy definition:

Lack of improvement over 24 -48 hr. This should be expanded to 72 hrs if abscess or phlegmon present.

Persistent elevation of inflammatory markers.

Development of peritoneal signs or hemodynamic instability.

Failure of Abx therapy would indicate the need for urgent appendectomy.

Successful treatment with Abx should be followed closely by phone and if recurrent sx occur, considered for subsequent lap appy.

If pt is at risk for infection with resistant organisms or has multiple allergies we suggest consultation with Infection Disease Service.

Telephone consultation with the General Surgery Service at ANMC is welcomed and encouraged during non-operative management of appendicitis.

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