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Commentary

A commentary on “Changes in appendicitis treatment during the COVID-19 pandemic - A systematic review and meta-analysis” (Int J Surg 2021;95:106,148)

Dear Editor,

We read with great interest the meta-analysis and systematic review by Köhler et al. [1].

The COVID-19 pandemic has transformed worldwide healthcare distribution and affected global surgical provision, with its impact on surgical workforce and hospitals’ infrastructures. Modifications of management protocols and guidelines, together with introduction of novel practices, have been recommended to reduce the risk of infection and to ensure efficient allocation of available resources. One of the modified strategies to alleviate the pressure on healthcare system is to decrease hospitalization rate and postpone non-urgent surgeries.

Although surgical intervention is still regarded as the gold standard for acute appendicitis (AA) management, a conservative non-operative approach in selected patients through administration of intravenous antibiotics as a first-line treatment has been well described. A meta-analysis published in 2019 summarized the results of twenty studies, including seven prospective randomized controlled trials, four retrospective cohort studies, one quasi-randomized study, and eight prospective cohort studies [2]. Antakia et al. demonstrated an association of antibiotic treatment with a significantly lower post-surgical complication rate (e.g., postoperative surgical site infection, intra-abdominal abscess, abdominal wound incision hernias as well as other complications) at five years compared with index event surgery. Nevertheless, patients would encounter a lower complication-free recovery rate and a non-significantly higher rate of complicated appendicitis when surgical management was delayed due to initial antibiotic therapy. Therefore, we suggest that this alternative non-operative strategy could be safely used only in imaging confirmed uncomplicated AA with close monitoring and readily accessible medical counseling because of the risk of recurrence. Besides, the results of the two large APPAC II and III trials are expected to provide more reliable evidence regarding non-operative management [3].

Instead of a genuine reduction in the incidence of AA, the fear of being infected by healthcare workers and patients in healthcare facilities may have discouraged patients from visiting emergency departments. Yang et al. reported a significant increase in pre-hospital antibiotic administration during the pandemic [4]. In other words, more patients with AA preferred conservative treatment to seeking professional advice during the pandemic. Moreover, many governments reinforced their isolation policies through limiting public transportation, causing a significantly decreased number of patients presenting to emergency services. Nevertheless, a genuine decrease in the incidence of AA could not be ruled out.

To avoid nosocomial infection with SARS-CoV-2, authorities have modified management guidelines to obviate all medical procedures that possibly generate aerosols from patients with unknown or suspicious SARS-CoV-2 infection, including laparoscopic or endoscopic procedures. In addition, such procedures should only be performed with appropriate protective equipments when the benefit to the patient outweighs the associated risks. Other recommendations also include filtering carbon dioxide and evacuates during selective minimally invasive surgery with an ultrafiltration system. In fact, given the inadequacy in healthcare workers, shortage of personal protective apparatus, paucity of ultrafiltration systems, and failure of routine testing of all patients, a tendency towards non-operative management may have occurred during the pandemic. Moreover, although delivering a safe surgical service is vital in a pandemic, a global survey by Jelpo et al. reported that up to 18.1% of surgeons did not change their protective equipment when treating untreated patients, and 4.1% did not take protective measures even for COVID-19-positive patients [5]. Conceivably, such phenomena may partly highlight the quagmire of a medical supply shortage during the pandemic.

Based on the evidence of a decreased in demand of management of AA in adults and successful antibiotic management of well-selected patients with uncomplicated AA, resources can be reallocated from acute surgical services to other sectors with desperate needs. The findings mentioned above should be considered for any appropriate strategy planning and resource reassignment when confronted with the current Omicron wave.

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Chong-Chi Chiu – Conceptualization, writing original draft, submission, supervision.

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Chen-Fuh Lam – Conceptualization.
Li-Ren Yeh – Conceptualization.
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