Possibility to treat uncomplicated acute appendicitis with oral antibiotics to avoid hospitalization

During the pandemic: what can we do to patients with other diseases?

Motivation

During the COVID-19 pandemic period, we are seeking safe, efficient, and cost-effective alternatives to surgery for patients with computed tomography-confirmed uncomplicated acute appendicitis (UAA).

Previous clinical trials confirmed 61% of patients treated successfully with antibiotics leaving no adverse outcomes. The next step for us to deal with the pandemic is to shorten the hospital stay of the patients. Shortening/avoidance of hospitalizations can reduce the risk of COVID-19 exposure, increase free hospital resources such as bed capacity, cost savings, patient satisfaction, and quality of life. Therefore, we are motivated to explore the feasibility to treat UAA with oral antibiotics alone [1].

Method

We compared oral antibiotics alone vs. combined treatment of intravenous and oral antibiotics. We conducted a multicenter randomized clinical trial including 583 adults with UAA. We divided the patients into two groups: Group I treated with 7 days of oral moxifloxacin and Group II with intravenous ertapenem (2 days) followed by levofloxacin and metronidazole (5 days). The confidence limit in this work is set with a noninferiority margin of 6% [2].

Results

Treatment success is defined as having more than 65% of patients leaving the hospital without the need for surgery or recurrent appendicitis within 1 year. We obtained a success rate of 70% in Group I and 74% in Group II. Such a success of antibiotic treatment corroborates with results of previous clinical trials [2].

Suggestion

Oral antibiotics alone did not meet the non-inferior criteria to the combined intravenous and oral antibiotic treatment. However, the patients treated with only oral antibiotics did not experience major complications. Therefore, we propose using a larger noninferiority margin than 6% for the benefit of avoiding hospitalization during the pandemic [2].

References

[1] P. Salminen *et al.*, “Five-year follow-up of antibiotic therapy for uncomplicated acute appendicitis in the APPAC randomized clinical trial,” *JAMA - J. Am. Med. Assoc.*, vol. 320, no. 12, pp. 1259–1265, 2018.

[2] S. Sippola *et al.*, “Effect of Oral Moxifloxacin vs Intravenous Ertapenem plus Oral Levofloxacin for Treatment of Uncomplicated Acute Appendicitis: The APPAC II Randomized Clinical Trial,” *JAMA - J. Am. Med. Assoc.*, 2021.