

Increased incidence of complicated acute appendicitis after the first COVID-19 pandemic peak: Have patients a different attitude towards COVID-hospitals?

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Objective: The 11 March 2020 the World Health Organisation considered the COVID-19 Infection a pandemic disease. Between March and May 2020, the region of southern Switzerland was affected by the first pandemic peak, which was managed by dividing hospitals in Covid and non Covid facilities and by reducing elective surgery. At the end of the pandemic peak hospitals returned to their original structure but there was concern as to possible avoidance of former COVID facilities by patients because of fear of contracting of COVID-19 infection. For acute situations such as acute appendicitis, this could imply a delay of treatment. The aim of this retrospective study is to analyse the increment in incidence of complicated appendicitis in the post-pandemic period at our institution.

Methods: Clinical data of patients who underwent appendectomies in the period before and after the COVID-19 pandemic were analysed and compared. Diagnosis was based histopathological examination and/or on intra-operative or CT findings. Complicated appendicitis was defined as the presence of perforated or gangrenous appendicitis on histopathology or the presence of an abscess on CT scan. The incidence of complicated appendicitis, the time between onset of symptoms and patient admission (TOSA), the initial inflammatory blood tests and the complication rate was compared between the two periods.

Results: 79 patients were included in the study, 31 in the post-COVID-19 peak group (A), April - October 2020, and 48 in the pre-pandemic group (B), April - October 2019. Incidence of complicated appendicitis was significantly higher in group A (55% vs 14% $p=0.02$). These findings correlate with a greater TOSA (mean time 35 hours vs 17 hours, $p=0.01$) and higher inflammatory values in the initial blood test, (mean WBC count 14.8 G/l vs 12.9 G/l, $p=0.08$ and mean CRP value 73 mg/l vs 43 mg/l, $p=0.01$) in group A.

Conclusion: Our data show a clear increase of incidence of complicated acute appendicitis after the pandemic peak in our hospital. Indeed patients tended to wait longer to visit our emergency department after the pandemic peak. One explanation is a possible fear by the patients of contracting COVID-19 infection in a former COVID hospital. Management of surgical emergencies during and after a pandemic peak phase should take into account the fact that patients may wait longer to visit a doctor thus aggravating the degree of their disease.