Key results:

A retrospective cohort study of 1274 patients 40 years or younger suspected of appendicitis, the incidence of perforated inflamed appendices increased with longer duration of symptoms (2.36% the first 24 hours, 15.15% for 24-48 hours and 34.78% for 48-72 hours, p < 0.001).

Methods:

The authors do not have any conflicts of interest. There is an overlap of subjects for this study with other studies that are looking at other variables than duration of symptoms in regards to perforation and hospital stay.

Permission was obtained, to perform this study, from the director of the National University Hospital of Iceland and the ethics comity.

Every single imaging for patients 40 years or younger, both CT and US, where the appendix was visible was evaluated for signs of inflamed appendix.

The last group were patients that went straight to the operating room without having any imaging. They were found by looking through the surgery archive for all patients 40 years or younger who had an operation of the appendix or abdomen unspecified. They were in total n=274 patients.

Then after finding all these patients, their ID number was stored and made sure there were no overlap of patients between the US, initial CT and operation group (to prevent the same hospital visit to be counted more than once).