Ultrasonographic follow-up for uncomplicated, acute pediatric appendicitis managed conservatively
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INTRODUCTION
Ultrasound (US) is an accurate tool for diagnosing pediatric acute appendicitis (AA). Conservative, non-operative treatment for uncomplicated AA is feasible and safe in children, sparing the need for surgery. However, US to follow children with AA managed non-operatively has not been evaluated and data regarding sonoographic changes that might occur post-conservative treatment in uncomplicated AA are not reported in the medical literature.

OBJECTIVES
1. To describe the US appearance of appendix after AA treated conservatively
2. To identify sonoographic signs predictive of recurrent AA (RAA)
3. To evaluate the feasibility of US for follow-up after conservative treatment of uncomplicated AA

METHODS
The clinical records and US data of all children diagnosed with uncomplicated AA at admission and at US follow-up, who were treated conservatively in our institute 2015 - 2019 were recorded.

RESULTS
Among 835 children with uncomplicated AA, 204 had follow-up US at 1-5 years (Fig 1). Information related to the US appearance of the appendix at 3-month follow-up are summarized in Fig 2.
28 cases (13.7%) had RAA and 176 (86.2%) had uneventful follow-up (non-RAA). In 16/28 (57.1%) cases of RAA, US depicted enlarged diameter (>6 mm) compared with 39/176 (21.1%) in non-RAA (p<0.001). The appendix was normal in 6 (26.1%) from RAA group and in 97/176 (55.1%) from the non-RAA (p<0.001) (Table 1). RAA was treated surgically in 23 cases and non-operative in 5 (Table 2).

CONCLUSIONS
This study described the US appearance of the appendix at follow-up examinations of children with uncomplicated AA treated conservatively. Enlarged diameter of the appendix (> 6 mm) was detected more frequently in children who later developed RAA. The results of this study support the hypothesis that ultrasound can be useful in predicting RAA in patients treated conservatively. Hence, close US follow-up is warranted. Additional, larger studies are needed to establish guidelines.