Analyses of interest are:

1.      Demographics: age, gender, weight, height of the patients

2.      Stages of the acute appendicitis found on the second ultrasound (US) compared to the surgical pathology findings

3.      Changes in the stages of the acute appendicitis between the first (US1) and second US (US2)

a.      Did the administration of antibiotics make a difference?

4.      Time it takes to perform the POCUS

a.      By Radiology (RADUS)

b.      By pediatric emergency medicine team (POCUS)

5.      Receptivity of the POCUS by the performers

a.      Did the performers find this easy to do?

b.      Did the patients tolerate the diagnostic test (POCUS) well?

First of all, for the covariates for the appendicitis study, there was a JAMA study in 2016 that found among the ultrasound characteristics 1) loss of normal echogenic submucosal layer, 2) mural hyperemia, 3) periappendiceal fluid, 4) appendicolith, 5) peri-appendiceal hyperchoic fat, 6) appendix wall diameter, the loss of normal echogenic submicosal layer seemed to predict uncomplicated (surgical report 1 and 2 combined) versus complicated (surgical report 3 and 4 combined). So it'll be interesting, I think, to see how the Puylaert stages compare to them.

Would it be possible to run an analysis to see if there is any association between the diameter of the appendix to surgical pathology report of stage 1 (early), 2 (suppurative), 3 (gangrenous), 4 (perforation)? I want to see if the diameter alone would be as good, inferior to, or better than the Puylaert staging on the ultrasound. Thank you.