Algorithms of care in patients with acute appendicitis have changed in the last 20 years due to the introduction of new surgical techniques and to the increasing importance given to antibiotic therapy. A 14 years experience on 1354 appendicites has allowed the proposal of an algorithm based on clinical variables and a selection between treatment with antibiotic therapy alone, open appendectomy, laparoscopic appendectomy or single-port appendectomy. We have treated 336 patients with conservative therapy alone, 923 patients with laparoscopic appendectomy (with a rate of conversion of 10.1%), 75 patients with open appendectomy, 20 patients with single-port appendectomy. Our clinical practice has changed in time also in relationship with the upcoming evidence-based criteria from randomized controlled studies or systematic reviews. The clinical choice between different approaches is today standardized in a clinical flow-chart based upon blood exams (leukocytes, CRP, pregnancy test), imaging (US or CT-scan), serial physical examination and explorative laparoscopy.