Duru F.I.

THE EVOLUTION OF SURGICAL MANAGEMENT IN ACUTE APPENDICITIS: FROM OPEN SURGERY TO LAPAROSCOPY AND ANTIBIOTICS-ONLY TREATMENT

Tutor: associate professor, Zhura A.V.
Department of Surgical Diseases
Belarusian State Medical University, Minsk

Relevance. The management of acute appendicitis, a common surgical emergency, has evolved from open appendectomy as the historic gold standard. Laparoscopic appendectomy is now the predominant global method, supported by evidence demonstrating shorter hospital stays, less pain and complications, and faster recovery compared to open surgery. Concurrently, antibiotic-only therapy has been established as a safe and effective non-surgical alternative for selected patients with uncomplicated appendicitis, localized appendiceal mass or abscess. While surgery remains mandatory for complicated cases, current clinical practice involves choosing between these two primary evidence-based options for uncomplicated disease.

Aim: to discuss the evolution of acute appendicitis management by evaluating the evidence that established laparoscopic appendectomy as the safe, gold-standard surgical treatment while analyzing the concurrent development of antibiotic-only therapy as an alternative for uncomplicated cases.

Materials and methods. A retrospective case analysis of patients aged 18 to 89 years, comprising both male and female individuals, was conducted using tabulated clinical histories for appendicitis. Surgical interventions — predominantly emergency laparoscopic or open appendectomies, often with abscess drainage — were performed in 2025 at the Minsk City Clinical Emergency Hospital.

Results and their discussion. The surgical management of appendicitis encompassed both laparoscopic and open appendectomy techniques, often complemented by adjunctive procedures such as abscess drainage, peritoneal sanitation, adhesiolysis, and hernia repair. The primary diagnoses, classified according to ICD-10 codes, predominantly included K35.1 (acute appendicitis with peritoneal abscess), K35.0 (acute appendicitis with generalized peritonitis), and K35.9 (acute appendicitis, unspecified). Postoperative outcomes were generally favorable, with the majority of patients reported to be improved or recovered following surgical intervention. Discussions regarding non-surgical therapies were not pursued, as the official treatment for the appendicitis in Belarus involve only surgical approach.

According to current medical literature, the non-surgical management of acute appendicitis, particularly in cases presenting without generalized peritonitis, has garnered growing interest due to its potential benefits. Recent studies indicate that antibiotic therapy alone can be effective for treating uncomplicated cases of appendicitis, with success rates ranging from 60% to 90% in initial management without surgery. Furthermore, non-surgical approaches frequently involve percutaneous drainage for abscesses, which has been shown to diminish the necessity for immediate surgical intervention and can result in favorable clinical outcomes.

In contrast, surgical intervention remains the gold standard for complicated appendicitis. While surgical methods offer a definitive resolution and prevent recurrence, they also pose inherent risks, including infection and prolonged recovery times. A combined approach that utilizes antibiotics alongside minimally invasive techniques has yielded promising results; however, careful patient selection is essential.

In summary, although surgical methods continue to be effective for appendicitis management, non-surgical options represent a viable alternative for select patients, particularly when tailored to individual clinical conditions and severity.

Conclusions. Laparoscopic appendectomy proved highly effective in managing acute appendicitis, even in complicated cases presenting with abscesses or peritonitis. Patient outcomes were overwhelmingly positive, with the majority achieving improvement or full recovery following surgery. In select patients, non-surgical antibiotic treatment may be successfully administered.