A Differentiated Approach to Antimicrobial Therapy in Abdominal Surgery (Based on Clinical Practice Analysis in Acute Appendicitis)

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Objective. To conduct a comparative analysis of antimicrobial therapy practices in uncomplicated and complicated forms of acute appendicitis, assessing compliance with current clinical guidelines.

Materials and Methods. Patients with intraoperatively verified diagnosis of "acute appendicitis" who underwent surgical treatment at the Republican Clinical Center between January 1, 2025, and July 1, 2025.

Patients were stratified into two groups: Group 1 (uncomplicated appendicitis, n=52): catarrhal and phlegmonous forms. Group 2 (complicated appendicitis, n=20): gangrenous form, perforation, peritonitis, appendiceal infiltrate.

Compliance of initial empirical AMT with recommendations, therapy duration, frequency of biological material collection for bacteriological testing, and the structure of antimicrobial drugs used were assessed.

Results. The study included 71 patients. Gender distribution: males - 53%. Mean age in Group 1 was 27±8 years, in Group 2 - 53±12 years. Compliance with initial empirical AMT recommendations: 100% in both groups. Mean duration of AMT: 3.4±1.2 days (Group 1) and 12.1±2.8 days (Group 2); $p<0.001$. Collection of biological material for bacteriological testing: 0% (Group 1) and 100% (Group 2); $p<0.001$. Group 1 - Initial empirical therapy - cefazolin 2.0 g IV + metronidazole 500 mg IV. Mean course duration - 3.4±1.2 days. Therapy adjustment was required in 7% of cases - transition to metronidazole monotherapy. Group 2 - Initial empirical therapy - cefazolin 2.0 g IV + metronidazole 500 mg IV. Mean course duration - 12.1±2.8 days. Therapy adjustment based on bacteriological test results: ceftriaxone (85% of cases), vancomycin (10%), cefalexin (5%).

This study demonstrates complete compliance of initial empirical therapy with current recommendations in both observation groups. However, a statistically significant excess of AMT duration compared to recommended timeframes was identified. In the uncomplicated appendicitis group, the AMT duration (3.4±1.2 days) exceeds the recommended 24-hour prophylaxis period, which may indicate a conservative approach to assessing infectious risk. In the complicated appendicitis group, the therapy duration (12.1±2.8 days) is more than 1.5 times the upper limit of the recommended period (4-7 days), necessitating a revision of the criteria for AMT discontinuation.

Conclusion. The initial empirical antimicrobial therapy strategy for acute appendicitis at the Republican Medical Clinical Center fully complies with modern standards. A statistically significant excess of AMT duration was identified in both observation groups compared to recommendations. It is recommended to revise the criteria for AMT discontinuation, shifting the focus from standard treatment durations to the dynamics of clinical indicators.