

## REVIEW

**by Prof. Dr. Nikolay Kirilov Yaramov, MD, PhD, DSc,  
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**on the dissertation of Dr. Georgi Nikolov Gelov, a practicing  
doctorate student in the Department of Special Surgery at the  
Medical University of Plovdiv**

**The dissertation titled "CHARACTERISTICS IN THE DIAGNOSIS  
AND SURGICAL TREATMENT OF ACUTE CHOLECYSTITIS IN  
PATIENTS OVER 70 YEARS OLD"**

**is under review for the award of the academic degree "Doctor" in  
the scientific specialty of "Surgery" [Code 03.01.37].**

Dr. Georgi Gelov's dissertation spans 160 pages, complemented by 69 visuals, including 28 diagrams and 41 high-quality original photographs, along with 52 tables. The bibliography references 228 sources. The structure of the scientific research includes an introduction (2 pages), literature review (51 pages), objectives (1 page), materials and methods (5 pages), results (66 pages), discussion (25 pages), conclusions (2 pages), publications (1 page), abstract (4 pages), and bibliography (15 pages).

The dissertation has been discussed and proposed for defense before an expanded departmental council at the Department of Special Surgery at the Medical University of Plovdiv.

The dissertation, focused on the clinical and surgical aspects, delves into the diagnosis and treatment of acute cholecystitis in elderly patients.

Indeed, the challenges and delays in diagnosis and treatment increase the risk of complications. The therapeutic approach to acute cholecystitis in individuals over 70 years old remains a current and debatable surgical issue. The global trends of population aging and high rates of polymorbidity underscore the need for a precise

diagnostic and therapeutic approach. Dr. Gelov's research is acknowledged for its practical and scientific significance in addressing this issue.

The dissertation aims to analyze global and personal experiences in diagnosing and treating acute cholecystitis in individuals over 70, proposing a contemporary, adequate, and rational diagnostic and therapeutic approach. The clarity and realism of the objectives demonstrate the author's commitment to proving the effectiveness of the methodology in diagnosing and determining the treatment strategy for this patient population.

## LITERATURE REVIEW

The literature review is quite detailed, spanning 51 pages and covering 1/3 of the overall development. It delves into various aspects of the issue, including in-depth studies on epidemiology, demography and specific health characteristics of the population over 70. The review also explores risk factors, comorbidities, scales for assessing perioperative risk, anatomical, pathoanatomical, and pathophysiological features, histological and clinical classification, manifestations, severity, stages, diagnostic methods, and treatment tactics for acute cholecystitis in these patients. Dr. Gelov's comprehensive literature review demonstrates a deep understanding of the subject, providing a retrospective overview of contemporary surgical methods, morbidity, mortality, and prognosis of acute cholecystitis in adults. Overall, the review is balanced, and reflects the doctoral candidate's thorough knowledge of literature related to the dissertation topic.

## MATERIALS AND METHODS

The material covers a 10-year retrospective study (2010-2020) of 519 patients with acute cholecystitis aged over 70, treated at the General Surgery Department of "MBAL Haskovo" AD, Haskovo, with 365 undergoing surgery.

Dr. Gelov employed modern and appropriate documentary, registration, and statistical research methods. The detailed clinical and statistical analyses reveal significant dependencies between age groups, gender, comorbidities, risk levels, and clinical-laboratory indicators of acute cholecystitis in the elderly.

Dr. Gelov meticulously presents all operations in tabular form and photographs, including 45.20% (165 patients) undergoing conventional/open cholecystectomy and 14.8% (54 cases) undergoing laparoscopic cholecystectomy. Additionally, 78 external

drainage procedures (43 Kehr drains and 35 Vishnevsky drains) and 68 internal drainage procedures (6 hepaticojejunostomies and 62 CDA) are performed.

## RESULTS

The dissertation thoroughly examines perioperative clinical characteristics, meticulously presenting them in 69 figures, including diagrams and photos.

The statistical analysis of the data is in-depth, extensively represented in 52 tables, showcasing age and risk groups, clinical manifestations, types of operations, complications, and mortality.

## DISCUSSION

In the discussion, Dr. Gelov compares his positive results with those in the literature, finding similarities in many aspects. The critical analysis of the debatable areas regarding the surgical approach to acute cholecystitis in adults logically concludes with an original therapeutic algorithm, separately addressing acute cholecystitis and that complicated by biliary peritonitis. This suggests Dr. Gelov's surgical experience and a deep understanding of the issue, along with the ability for in-depth reasoning and conclusions drawn from the obtained results.

## CONCLUSIONS

The nine presented conclusions are clear, well-formulated, and reflect the essence of the dissertation. They demonstrate the extensive volume and value of scientific analyses and the significance of the conducted research. These conclusions hold valuable scientific implications and can contribute to daily surgical practice.

## CONTRIBUTIONS

In Dr. Gelov's development, definite and valuable results are achieved, with indisputable scientific contributions:

1. For the first time in this study, a detailed analysis is conducted on the specific age-related issues of patients with acute cholecystitis over 70 years old, significantly related to the surgical diagnosis and treatment of the condition.
2. The dissertation proves the atypical nature of manifestations and the rapid progression of acute cholecystitis in adults - crucial factors for difficult and delayed diagnosis.

3. Dr. Gelov confirms the challenges in choosing surgical treatment, which must be determined by assessing the risk of complications in the patient and the stage of the disease.
4. An original therapeutic algorithm for surgical management of acute cholecystitis in patients over 70 years old is proposed for the first time in Bulgaria.

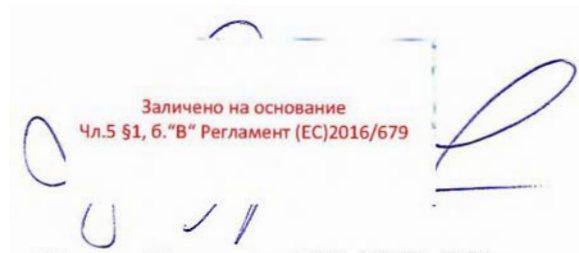
The candidate has conducted in-depth and precise retrospective studies with good scientific and practical value. The work is written clearly, easy to read, well-structured, and nicely illustrated.

#### RECOMMENDATION

The dissertation, titled "CHARACTERISTICS IN THE DIAGNOSIS AND SURGICAL TREATMENT OF ACUTE CHOLECYSTITIS IN PATIENTS OVER 70 YEARS OLD", has substantial scientific-practical potential and significant contributions, fully meeting the necessary requirements and demonstrating the author's research capacity.

I confidently recommend that the members of the surgical academic jury vote positively for awarding Dr. Georgi Nikolov Gelov the educational and scientific degree of "Doctor."

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