

CLINICAL FEATURES OF PATIENTS WITH POSTOPERATIVE PNEUMONIA AFTER CARDIAC SURGERY

Mohamed Najeem Mohamed Sabran,
Kesavan Reddiar Lukeerthana

Grodno State Medical University

Scientific supervisor: PhD Kalatsei L. V.

Relevance. Following cardiothoracic surgery, postoperative pneumonia (POP) represents a major clinical sequela. The development of POP after cardiac surgery is a multifactorial process, arising from a complex interplay of patient susceptibility, the profound physiological insult of the operation, and postoperative management factors [1].

Target. This study compared clinical features among the patients who developed POP and those with an uncomplicated recovery.

Research methods. This retrospective analysis examined 95 patients undergoing open-heart surgery at the Grodno Regional Clinical Cardiological Centre from January to December 2024. The cohort was divided into two groups: Group 1 consisted of 53 patients (55.7%) who developed POP, and Group 2 comprised 42 patients (44.3%) who did not experience this complication. Pneumonia was diagnosed based on established American guidelines. Anamnestic, laboratory, and clinical information was collected from the hospital's digital health records management system (4D Client). Statistical analysis was performed using the Statistica 12.0 software.

Results and their discussion. Of the 95 operations, 63 (66.3%) were performed for isolated CABG, 9 (9.5%) for isolated valve repair or replacement, 13 (13.7%) for CABG and mixed valve surgery, and 10 (10.5%) for other types. Among 52 patients with POP, 11 (20.8%) developed right sided and 21 (39.6%) – left sided pneumonia, while 20 (38.5%) patients had bilateral pneumonia. Analysis of baseline characteristics revealed that the groups were comparable in age and gender, with predominance of male patients in both groups (63% vs 74%, $p>0.05$). There were no differences in major cardiac and extracardiac comorbidities including diabetes, obesity, COPD, bronchial asthma and atrial fibrillation ($p>0.05$). While hypertension was present almost in all the study participants (96% vs 91%, $p>0.05$), the severity of it differed significantly between the cohorts, with Stage 3 being significantly more common in POP patients ($p=0.031$). It is interesting to add that patients didn't have differences in history of MI (48% vs 53%, $p>0.05$), while patients of Group 2 had a greater burden of chronic kidney disease (30% vs. 6%, $p=0.001$). Also, significant differences were observed in specific postoperative complications. Patients who developed POP had a substantially higher prevalence of postoperative anemia (98% vs. 70%, $p<0.001$) and pneumothorax (17% vs. 2%, $p=0.020$). Also, we observed a tendency for higher rate of postoperative bleedings in POP group (31% vs 16%, $p=0.098$) which didn't reach margin of statistical significance.

Conclusions. This analysis demonstrates that POP following cardiac surgery presents as a distinct clinical syndrome, characterized by significant perioperative anaemia and pneumothorax. Understanding this phenotype enhances risk prediction, enables earlier diagnosis, and informs more effective treatment. Future prospective studies should validate these findings and develop targeted interventions to reduce the substantial burden of this complication.

LITERATURE

1. Risk factors for postoperative pneumonia after cardiac surgery: a prediction model / D. Wang, X. Huang, H. Wang [et al.] // Journal of Thoracic Disease. – 2021. – Vol. 13, № 4. – P. 2351–2362.

LASER TECHNOLOGIES IN SURGERY OF HEMORRHOIDAL DISEASE

Mohamed Noufal Miras Ahamed,
Sanduni Thathsarani Samarakoon

Grodno State Medical University

Scientific supervisor: PhD, Assoc. Prof. Vasilevsky V. P.

Relevance. Classical surgical removal of the internal and external components of hemorrhoidal disease leads to a significant increase in pain in the postoperative period, which is the main negative aspect of hemorrhoid surgery [1].

Target. Improvement of the surgical algorithm for the treatment of hemorrhoidal disease based on the intraoperative use of laser technologies in patients with second to third-degree of this pathology.

Research methods. Over the 15 months, 15 patients with hemorrhoidal disease have been surgically treated using laser technology at the Purulent Surgery Department of the University Clinic of Grodno State Medical University. Laser destruction of hemorrhoids was performed all of them. The age of the operated 9 male and 6 female patients with hemorrhoidal pathology was in the range of 33-72 years. Such surgical strategies is mostly suitable for a symptomatic second to third-degree with minimal rectal prolapse and this actually present in all discussed clinical cases.

Results and their discussion. In our practice, in all clinical cases, the surgical technique of subdermal-submucous destruction used for the destruction of hemorrhoids. This variant of laser treatment, during which the end light guide was ired along three or four sectoral lines, allows destructive treatment of hypertrophied external hemorrhoidal tissue, if necessary. When performing destruction with a removable fiber in the sector in the active mode, an adequate result of laser exposure was obtained in the form of a focus of «white denaturation» of tissues without violating the anatomical integrity of the integument and bleeding with a decrease in the volume of the internal node during manipulation by 3-4 times. In 3 cases, in the presence of