FORENSIC MEDICAL ASPECTS OF COMPLICATIONS ARISING IN AESTHETIC AND RECONSTRUCTIVE PLASTIC SURGERY PROCEDURES

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Abstract

This article scientifically analyzes the forensic significance of complications arising from plastic surgery, their pathogenetic mechanisms, and issues related to improving forensic assessment criteria. With the widespread application of modern aesthetic and reconstructive plastic surgery, there has been a rise in medico-legal disputes concerning postoperative infectious processes, necrotic changes, thromboembolic events, neurotrophic disorders, aesthetic deformities, and functional deficiencies. The study provides a comprehensive examination of the clinical and morphological characteristics of post-plastic surgery complications, the harm they cause to the body, and their impact on the degree of bodily injury. Furthermore, objective and standardized evaluation criteria are proposed for application in forensic medical practice.

Keywords: plastic surgery, forensic medical examination, aesthetic surgery, postoperative complications, necrosis, thromboembolism, aesthetic defect, medical error, morphological diagnosis, degree of bodily injury.

Introduction: Plastic surgery, a rapidly advancing field in modern medicine, is now widely utilized not only for reconstructive but also for aesthetic purposes. The number of plastic surgery procedures performed to improve a person's appearance, correct congenital or acquired defects, restore post-traumatic and burn deformities, and address age-related changes is increasing annually. According to global health statistics, alongside the growth in the volume of aesthetic and reconstructive surgeries, the number of postoperative complications and associated medico-legal disputes is also on the rise.

In particular, various complications may be encountered in procedures such as rhinoplasty, mammoplasty, blepharoplasty, liposuction, abdominoplasty, otoplasty, facelifts, and implant surgeries. Postoperative infectious processes, hematomas, seromas, soft tissue necrosis, thromboembolic conditions, implant-related complications, scar deformities, nerve damage, and functional disorders cause significant harm to the patient's health. In some cases, these complications can lead to a reduction in the patient's ability to work, the formation of permanent aesthetic defects, psycho-emotional disorders, and, in severe cases, death.

A distinctive feature of plastic surgery is that its primary goal is often not to save a life, but to achieve an aesthetic result. Consequently, dissatisfaction with the surgical outcome or the emergence of aesthetic defects often leads to disputes between the patient and the physician. In such situations, forensic medical examination becomes critically important, and the expert is tasked with determining the causes of complications, their developmental mechanisms, the quality of medical care provided, the correctness of the surgical procedure, and the compliance of the physician's actions with current clinical standards.

In forensic medical practice, evaluating complications following plastic surgery is a complex and multifaceted process. This is because such cases require consideration of not only clinical and morphological changes but also the aesthetic result, deformities in appearance, functional impairments, and the patient's psychological state. In practice, it is often difficult to determine whether postoperative complications are due to natural risk factors or the result of diagnostic, tactical, and technical errors made by the physician.

Currently, unified, standardized criteria for the forensic medical assessment of complications after plastic surgery have not been adequately developed. Existing forensic criteria are mainly adapted for general surgical procedures and do not fully encompass the aesthetic and functional specifics of plastic surgery. In particular, criteria such as the degree of aesthetic defects, changes in facial and body proportions, and the impact on the patient's psycho-emotional state are often subjectively evaluated during the expert examination process. This, in turn, is causing discrepancies between different expert conclusions.

In recent years, modern implantation technologies, endoscopic surgeries, and laser and minimally invasive methods have been widely introduced in plastic surgery. However, the development of new technologies is also giving rise to new types of complications. Specifically, conditions such as capsular contracture, implant migration, chronic inflammatory reactions, fat embolism, and tissue ischemia and necrosis associated with silicone implants are increasingly being encountered in forensic practice. Determining the pathogenesis, clinical-morphological features, and the harm these complications cause to health requires modern scientific approaches.

Furthermore, as a result of strengthened oversight of the quality of medical services, increased legal literacy among the public, and a growing demand for aesthetic medical services, the number of legal cases related to plastic surgery is also on the rise. This places a pressing need on forensic medical examination to develop scientifically-grounded, objective, and standardized evaluation criteria.

This research is aimed at a thorough study of the clinical, morphological, and functional characteristics of complications following plastic surgery, determining their forensic medical significance, and developing objective assessment criteria for use in expert practice. The findings of this research will be of significant scientific and practical importance for improving the quality of forensic medical examinations, ensuring the fair resolution of medical-legal disputes, enhancing patient safety, and advancing the practice of plastic surgery.

Research materials and methods: The research materials included clinical observations related to complications following plastic surgery procedures, inpatient and outpatient medical records, forensic medical examination materials, surgical protocols, photographic documentation, and histological specimens.

The following methods were employed during the study:

- clinical observation and retrospective analysis;
- forensic medical examination methods;
- morphological and histological examinations;
- comparative and statistical analysis;
- photometric assessment;
- analysis of instrumental diagnostic data.

Morphological studies examined the microscopic signs of necrotic processes, microcirculatory disorders, inflammatory infiltration, and fibrotic changes. Both general and local factors play an important role in the development of complications after plastic surgery procedures. In the pathogenesis of these complications, microcirculatory disorders, tissue hypoxia, invasion by infectious agents, and immunological reactions are of primary importance.

Tissue necrosis is often associated with impaired blood supply, excessively tight sutures, or deficiencies in surgical technique. Thromboembolic complications develop as a result of prolonged surgical procedures, hypodynamia, and disorders of the blood coagulation system.

In implantation surgeries, capsular contracture, implant migration, and chronic inflammatory reactions may be observed. Following rhinoplasty, nasal deformities, respiratory dysfunction, and aesthetic imbalances are among the most common cases encountered in forensic medical practice.

The following key issues are addressed during a forensic medical examination:

- the etiological factor of the complication;
- the correctness of the surgical technique;
- adherence to clinical standards;

- the quality of medical care;
- the degree of harm to health caused by the complication;
- the severity of functional and aesthetic consequences.

In forensic medical practice, not only clinical symptomatology but also morphological changes are of significant importance when assessing complications. Histological examinations allow for the determination of the developmental stages of necrosis, thrombosis, chronic inflammation, or fibrosis.

The forensic significance of aesthetic defects is particularly important in facial surgeries, as facial deformities can seriously affect a patient's psychological state and social adaptation.

Studies indicate that a portion of severe postoperative complications is associated with the following medical errors:

- incorrect indications for surgery;
- insufficient patient examination;
- failure to adhere to aseptic and antiseptic regulations;
- improper surgical technique;
- inadequate postoperative monitoring;
- insufficient thromboembolic prophylaxis.

During a forensic medical examination, current clinical protocols, surgical standards, and medical documentation serve as the primary criteria for assessing medical errors.

Conclusion: Complications following plastic surgery procedures are one of the most pressing issues in modern forensic medical practice. A comprehensive assessment of the clinical, morphological, and functional characteristics of these complications ensures the scientific validity of expert conclusions.

Improving the criteria for forensic medical assessment will help to:

- improve the quality of medical care;
- ensure patient safety;
- fairly resolve medical-legal disputes;
- standardize forensic practice.

In the future, the widespread introduction of morphological and molecular diagnostic methods in this field will further increase the effectiveness of forensic medical examinations related to plastic surgery.

References

1. Клевно В.А. Судебно-медитсинская экспертиза дефектов оказания медицинской помощи. – Москва, 2021. – 320 б.
2. Пашинян Г.А. Судебная медитсина в пластической хирургии. – Москва, 2020. – 286 б.
3. Neligan P.C. Plastic Surgery. – Elsevier, 2022. – 1045 p.
4. Grabb and Smith's Plastic Surgery. – Philadelphia: Wolters Kluwer, 2021. – 912 p.
5. Aston S.J., Steinbrech D.S. Aesthetic Plastic Surgery. – Saunders, 2020. – 744 p.
6. O'zbekiston Respublikasi Sog'liqni saqlash vazirligining tan jarohatlari og'irlik darajasini aniqlashga oid me'yoriy hujjatlari.
7. Shokirjonov Sh.Sh. Sud tibbiyotida ekspertiza mezonlari. – Toshkent, 2019. – 214 b.
8. Mathes S.J. Plastic Surgery Principles. – New York, 2020. – 668 p.