

Table of Contents

Part I. AESTHETIC BOTULINUM TOXIN THERAPY (Gubanova E.I., Sharova A.A., Orlova O.R., Hernandez Jimenez E.I.)

- 1.1. History of botulinum toxin therapy
- 1.2. Botulinum toxin formulations
- 1.3. Mechanism of botulinum toxin action
 - 1.3.1. Botulinum toxin: general information
 - 1.3.2. The “molecular machinery” of exocytosis
- 1.4. Measurement and units of activity of commercial botulinum toxin formulations
- 1.5. Causes of botulinum toxin therapy ineffectiveness
- 1.6. Aesthetic indications and contraindications
- 1.7. Patient motivation, expectations, and clinical options
- 1.8. Adverse events of BTA injections
- 1.9. Standard treatment protocol
- 1.10. Factors affecting the therapeutic effect of botulinum toxin therapy
- 1.11. Gender-based approach to botulinum toxin therapy
- 1.12. Treatment of hyperhidrosis with botulinum toxin injections
- 1.13. Stereotypes of botulinum toxin therapy and their overcoming
- Neurotoxin diffusion
- Cooling of the injection site
- Recovery time of innervation
- Frequency of injections
- Single dose
- Effect time
- Is it necessary to limit the number of botulinum toxin treatments?
- Botulinum toxin therapy and pregnancy
- Are there any age restrictions for botulinum toxin therapy?
- 1.14. Expanding horizons of botulinum toxin therapy
 - 1.14.1. Emerging opportunities for botulinum toxin serotypes
 - 1.14.2. Developing the methods that increase the effectiveness of botulinum toxin therapy
 - 1.14.3. Skincare products with botulinum toxin-like effect: the first generation of topical botulinum toxin formulations
 - 1.14.4. Topical botulinum toxin: the second generation of topical botulinum toxin formulations
 - 1.14.5. Physical methods alternative to botulinum toxin injections
 - 1.14.6. Other methods that cause long-lasting muscle relaxation

References

Part II. INJECTABLE SHAPING AND CONTOURING

Chapter 1. Dermal fillers (Gubanova E.I., Hernandez Jimenez E.I., Kolieva M.H.)

- 1.1. Historical milestones in the development of injectable contouring
- 1.2. Injectable materials for soft tissue augmentation
 - 1.2.1. Synthetic non-biodegradable fillers: silicone and polyacrylamide
 - 1.2.2. Synthetic biodegradable fillers: polycaprolactone, polylactic acid, polyvinyl alcohol
 - 1.2.3. Collagen-based dermal fillers
 - 1.2.4. Autologous dermal fillers
 - 1.2.5. Hyaluronic acid (HA)-based formulations

Sources and extraction of native HA
Chemical stabilization of HA
Selection of the appropriate HA filler
HA fillers with unique properties
The stimulating effect of HA fillers: studies and hypothesis
Safety aspects of HA fillers
1.2.6. Multi-component dermal fillers
1.3. Micro-dermal implant–skin interactions
1.3.1. Biocompatibility
1.3.2. Effect duration
1.4. Patient choice, indications, and contraindications
1.5. Adverse effects, complications, and medical errors
1.5.1. Non-filler-related complications
1.5.2. Foreign body reaction to the implanted material
1.6. Dermal injection techniques
Linear threading
Fanning
Stiffening ribs
Cross-hatching
Serial puncture (micropapular)
Sandwich
Short lines
Fern pattern
Bolus
Greed
Deep injections (tunneling)
Cannula-assisted injections
1.7. Treatment area depending on the aging morphotype
1.8. Injection contouring is a medical treatment
1.9. Trends and prognoses

References

Chapter 2. Dermal threads (Sharova A.A., Zhukova O.G., Kodiakov A.A., Fedorov P.G.)

2.1. Mechanical and physiological lifting
2.2. Biological reactions to thread implantation
2.2.1. Thread materials: polypropylene, polycaprolactone, and L-lactic acid
Animal testing
Clinical observations
2.2.2. Polydioxanone threads
2.3. Classification of rejuvenating threads
2.3.1. According to aesthetic effect
2.3.2. CHRIST classification (Kodiakov A.A., Fedorov P.G.)
2.4. Thread implantation for the face
2.4.1. Lifting threads
2.4.2. Reinforcing threads
2.4.3. Biostimulating threads
2.5. Thread implantation for the body
2.6. Complications of thread implantation (A.A. Kodiakov, P.G. Fedorov)

- 2.6.1. Types of complications
- 2.6.2 Complications of thread lifting
- 2.6.3. Complications of thread reinforcement
- 2.6.4. Complications of stimulating threads
- 2.6.5. Infectious complications and inflammatory response

Prevention

Therapy

- 2.6.6. Preparing for treatment and rehabilitation

References

Chapter 3. Radial diagnostics in the cosmetic injections practice (Gubanova E.I., Privalova E.G.)

- 3.1. Diagnostics stage in the contouring treatment planning
- 3.2. Ultrasound (US)-assisted scanning
 - 3.2.1. Modes of ultrasound devices
 - 3.2.2 Clinical observations
 - Long-term use of HA-based products
 - Filler migration
 - Inflammation after permanent filler injection
 - Fibrosis after permanent filler removal
 - Improper implantation
 - 3.2.3. Versatility and availability
- 3.3. Magnetic resonance imaging (MRI) to observe implants in the skin

References

Part III. SKIN REVITALIZATION AND RESTRUCTURING

Chapter 1. Mesotherapy (Sharova A.A.)

- 1.1. From anesthesia to mesotherapy
- 1.2. Triple effect
 - 1.2.1. Pharmacological action
 - Allopathic remedies
 - Homeopathic remedies
 - Homotoxicological remedies
 - 1.2.2. Non-specific skin response to mechanical damage
 - 1.2.3. Reflex and neurohumoral mechanisms
- 1.3. Indications/contraindications and clinical possibilities/limitations of aesthetic mesotherapy
- 1.4. Mesotherapeutic solutions: ingredients and effects
 - 1.4.1. Anti-age mesotherapeutic agents
 - 1.4.2. Body mesotherapy
 - Improvement of microcirculation
 - Effects on adipose tissue
 - Lipodestruction
 - Skin health and appearance improvement
 - Carboxytherapy
 - 1.4.3. Mesotherapy in hair care
- 1.5. Adverse effects and complications
 - 1.5.1. Non-specific adverse effects
 - 1.5.2. Specific adverse effects and complications

- 1.5.3. Long-term complications
- 1.5.4. How to minimize risks and increase the efficacy of mesotherapy
- 1.6. Practical aspects
 - 1.6.1. Pre-treatment
 - 1.6.2. Recommended regimens
 - 1.6.3. Injection techniques
 - Manual technique: injection of the product with a syringe and needle
 - Device-assisted mesotherapy: injections with a mesoinjector
 - Microneedling: intradermal injections with the dermaroller
 - Fractional mesotherapy with the derma perforator
 - No needle mesotherapy: transdermal delivery without piercing the stratum corneum
- 1.7 Mesotherapy is a medical technology
 - 1.7.1. Mesotherapy in law
 - 1.7.2. Mesosolutions: drugs or...
 - 1.7.3. Criteria for choosing mesosolutions
 - Effectiveness
 - Safety
 - Price
- 1.8. Perspectives of aesthetic mesotherapy

References

Chapter 2. Biorevitalization (Parsagashvili E.Z., Hernandez Jimenez E.I.)

- 2.1. All according to the law... Biological!
 - 2.1.1. The vertical of power. And the horizontal too...
 - 2.1.2. Principles of feedback in action
 - 2.1.3. Public interest over personal interest
 - 2.1.4. Adaptation is about fitting in
- 2.2. Hyaluronic acid and its role in the skin
 - 2.2.1. Hyaluronic acid, the star compound in cosmetic dermatology and skincare
 - 2.2.2. HA life path in the skin
 - HA localization
 - HA turnover
 - HA-binding cell receptors
 - 2.2.3. Biological role of HA in the skin
 - Structural forming function
 - Role in antioxidant protection system
 - Hyaluronic “vector” for cell differentiation
 - Signal function and homeostasis regulation
 - The part in inflammation and skin healing
 - 2.2.4 Hyaluronic acid: ubiquity and physiological versatility
- 2.3. Biorevitalization: skin revitalizing injections
 - 2.3.1. Biorevitalization reproduces the natural life cycle of HA in the skin
 - 2.3.2. Prolonged biorevitalization, or a little about prodrugs
 - “Internal” esterification of HA: protection against enzymatic degradation
 - Combination of HA with an antioxidant: protection against non-enzymatic oxidative degradation
 - 2.3.3. Biorevitalization with “energy” accent
 - 2.3.4. HA-based products for biorevitalization and mesotherapy: what is the difference?
- 2.4. Indications and contraindications for biorevitalization

- 2.4.1. Indications
- 2.4.2. Contraindications
- 2.4.3. Possible adverse effects and complications
- 2.5. Biorevitalization in cosmetic dermatology
 - 2.5.1. Constitutional skin type
 - 2.5.2. Age
 - 2.5.3. Gender
 - 2.5.4. Photoaging
 - 2.5.5. Hyperpigmentation
 - 2.5.6. Acne
 - 2.5.7. Xerosis
 - 2.5.8. Zonal problems
 - 2.5.9. Patients with polyvalent allergies
 - 2.5.10. Scars and striae
 - 2.5.11. Atopic dermatitis
 - 2.5.12. Cheilitis and in rehabilitation after permanent makeup
 - 2.5.13. Skin reinforcement
- 2.6. Combination of biorevitalization with other aesthetic procedures
 - 2.6.1. Biorevitalization and botulinum toxin therapy

Rationale

Patient inclusion criteria

Patient exclusion criteria

Course of treatments

Possible adverse effects

Clinical results

2.6.2. Biorevitalization and destructive treatments (chemical peel, mechanical dermabrasion, laser and photorejuvenation, fractional RF)

Rationale

Patient inclusion criteria

Patient exclusion criteria

Contraindications

Course of treatments

Possible adverse effects

Clinical results

2.7. Hybrid technologies “2-in-1”: hyaluronic fillers with biorevitalizing properties

2.8. Biorevitalization as a part of hyaluronan therapy in cosmetic dermatology

References

Chapter 3. Collagen injections (Filippova K.A.)

- 3.1. Collagen structure and functions
- 3.2. Collagen-based products
 - 3.2.1. Manufacturing process
 - 3.2.2. Mechanism of action
 - 3.2.3. Research in the field of collagen injections
 - 3.2.4. Safety
 - 3.2.5. Special features of use
 - 3.2.6. Injection techniques

Linear technique
Pinpoint injection
Number and frequency of treatments
Product consumption per treatment
3.2.7. Clinical outcomes

References

Part IV. AESTHETIC METHODS OF REGENERATIVE MEDICINE

Chapter 1. Cell technologies in aesthetic medicine (Zorina A.I., Zorin V.L., Isaev A.A.)

1.1. Stem cell types
1.1.1. Embryonic stem cells
1.1.2. iPS cells
1.1.3. Cord blood stem cells
1.1.4. Regional stem cells
1.1.5. Progenitor cells
1.2. Therapeutic potential of stem cells
1.3. Skin stem cells
1.4. Cell technologies in the treatment of skin injuries
1.5. Cell technologies in aesthetic medicine
1.5.1. Autologous dermal fibroblasts
Fibroblasts, the primary structural cells of the dermis
Brief description of the technology
Laboratory and clinical research
1.5.2. Stromal-vascular fraction (SVCF)-enriched fat grafting
Peculiarities of the standard lipofilling
Advantages of stromal-vascular cell fraction of adipose tissue
Lipofilling with the use of SVCF
Brief description of the technology
1.5.3. Clinical observations

References

Chapter 2. Platelet-rich plasma (PRP) therapy in cosmetic dermatology (Alenichev A.Y., Sharypova I.V., Hernandez Jimenez E.I.)

2.1 Platelet blood cell, an initiator and conductor of the healing process
2.1.1. Origin and structure
Granules
Hyalomere
Platelet blood cell receptors
2.1.2. Functions
2.1.3 The secret of PRP activity
2.2. Technical aspects of the PRP preparation process
2.2.1. Stages of the PRP preparation
Stage I. Blood sampling
Stage II. Centrifugation: separating blood and platelets
Stage III. Platelet activation
2.2.2. Efficacy and safety of PRP preparation
Residual content of blood-forming elements

Platelet concentration
Platelet viability and functional activity
Growth factors concentration
Blood for PRP preparation
Medical device compliance
2.3. PRP therapy in cosmetic dermatology practice
2.3.1 Indications and contraindications
2.3.2. Practical aspects
2.4. Clinical experience
2.4.1. Aesthetic surgery
2.4.2. Lipofilling
2.4.3. Rehabilitation of the skin after injury
2.4.4. Scars
2.4.5. Skincare
2.4.6. Trichology
2.5. PRP, “the most physiological and universal restorer”

References

Part V. INJECTION METHODS IN TRICHOLOGY (Ovcharenko Y.S., Litus I.A.)

1.1. Injectable techniques
1.1.1. Micro-needling
1.1.2. Fractional mesotherapy
1.1.3. Pharmacopuncture
1.2. Substances and injectable products
1.2.1. Growth factors
1.2.2. Regulatory peptides
1.2.3. Amino acids
1.2.4. Hyaluronic acid and sodium succinate complex
1.2.5. Platelet-rich plasma (PRP)
1.2.6. Placenta hydrolysate-based preparations
1.2.7. Drugs
Dutasteride injections
Intralesional corticosteroid injections
1.3. Autologous hair follicle cells

References

Appendix. “GENETIC-RACIAL” SKIN CLASSIFICATION FOR PREDICTING THE RESULTS OF AESTHETIC TREATMENTS ASSOCIATED WITH SKIN DAMAGE

Genetic-racial origin of the patient
Genetic-racial background of the patient
Basic concept
The striking “North-South” phenomenon
Six genetic-racial groups
Europe and Africa
Central and Eastern Asia
Origin and location
Specific genetic-racial variations
How to use the “genetic-racial” classification: a simplified two-step method

Step 1 (diagnostic): classification of the skin type

Step 2 (practical): using the classification

Resume

References