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## No-air-plasma currents and ozone therapy in treatment of patients with diabetic foot syndrome

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**Aim:** To determine the effect of joint use of NO-air-plasma currents (APC) and ozone therapy (OT) on cellular elements and the level of bacteriological contamination of wounds occurring as a result of diabetic foot syndrome (DFS).

**Methods:** A total of 160 patients suffering from purulo-necrotic feet wounds arising from DFS were selected. Patients' average age was 63.9±9.7 years, with men slightly outnumbering women, 57.1 vs. 42.9% respectively. Predominant conditions neuro-ischemic form of DFS were >87%. The main group consisted of 57 (35.6%) patients that underwent corrective surgery on major vessels of lower limbs and treated daily with APC and OT. All procedures were carried out qualified nurse. The wound then was dressed with water-soluble ointment. The first control group consisted of 75 (46.9%) patients that did not undergo corrective surgery on major vessels of lower limbs; the second group consisted of 28 (17.5%) patients with corrective vascular measures. Treatment in these groups involved daily changes of wound dressings and application of water-soluble ointment.

**Results:** Proliferation activity of fibroblastic cells, collagenogenesis and mitotic activity of epithelial cells in the main group exceeded the same indexes in the first control group more than two times and more than 1.5 times in the second control group. Microbiological contamination of wound in the main group on the 4-5 day declined down to  $10^3$ - $10^5$  CFM/cm<sup>2</sup>, however in both control groups this score remained > $10^5$  for up to 12 days.

**Conclusion:** Sequenced application of APC and OT in treatment of patients with DFS is characterized with pronounced bactericidal effect and boosts epithelialization process, making it two times faster.

### Biography

V N Obolenskiy, PhD (2002) is the Head of the Septic Surgery Unit, City Clinical Hospital № 13, Moscow. He is also an Associate Professor of the Department of Surgery of the Russian National Research Medical University named after N.I. Pirogov, Moscow; correspondent member of the Russian Academy of Natural Sciences (RANS). He is a member of several professional societies, including EWMA, AO Trauma, participant EBJIS. He has published more than 40 articles in reputed journals and 8 tutorials. He has been serving as an Editorial Board Member of the journal "Wound Medicine" and "International Academic Journal of RANS".

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