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#### REVIEW

Of the member of the dissertation council for the dissertation of Zolotykh Valeriy Gennadievich on the topic: "Study of immuno-endocrine reactions after silicone mammoplasty", submitted for the degree of candidate of medical sciences in a scientific speciality 3.3.3. Pathological physiology 3.1.9. Surgery.

This is a prospective, cohort, observational, analytical study on the effect of silicone implants on patients; it was conducted in Russia. The study is relevant in connection with intermittent data in the world literature on long-term effects of silicone implants on patient's organisms.

The study involves patients under surgery for both aesthetic and reconstructive and oncological indications.

To date, the study has resulted in seven peer-reviewed publications.

The list of some notable results includes the following data:

- preoperative hyperprolactinemia in 50% of patients, regardless of the nature of the indications for breast surgery – aesthetic correction, reconstruction after cancer treatment, sectoral resection or mastectomy. Further, their prolactin levels returned to normal without additional prolactin-suppressive therapy.
- Galactorrhoea following surgical procedures occurred only in 2 cases.
- The "null" hypothesis about possible stimulation of prolactin secretion directly by the silicone implant or surgical trauma was not confirmed.
- No statistical relationship was found between the patients' diagnoses ("aesthetic" and "oncological/reconstructive"), surgical complications, and the presence of silicone implants.
- According to the study, the dynamics of autoantibody titers before and after operations with the use of silicone implants indicates an increase in autoimmune processes in the presence of silicone in the body.

Some of the important findings include the following:

- In almost 80% of patients operated on with a silicone implant, starting from six months after surgery, a two-fold increase in the level of autoantibodies to the TSH receptor was observed;



- Temporary rise in prolactin and TSH levels before implantation of silicone should not be considered as a manifestation of immuno-endocrine reactions to silicone, and are most likely a consequence of psychophysiological stress phenomena;
- The researcher believes that the use of silicone implants in patients with chronic lymphocytic thyroiditis and Graves-Basedow disease is contraindicated due to the adjuvant effect of the latter in relation to autoimmunity to the thyroid gland.
- Criteria for assessment during the follow-up of patients after silicone mammoplasty should include not only the aesthetic result of the operation and the presence of surgical complications, but also the control of the levels of antibodies to the TSH receptor and the presence of signs of ASIA syndrome, which will help to correct the management of such patients.

Some conclusions of practical importance seem to be particularly important:

1. All patients planned for surgery using silicone implants should be examined for the presence of antibodies to the TSH receptor in the blood serum as a marker of chronic lymphocytic thyroiditis and Graves-Basedow disease, and if they have one of the listed diagnoses, they should not be allowed for such an operation.
2. All patients who underwent breast arthroplasty need long-term follow-up with mandatory monitoring of the level of antibodies to the TSH receptor starting from 6 months after surgery.
3. The presence of a silicone implant should be considered by endocrinologists as a risk factor for the development of chronic lymphocytic thyroiditis and Graves-Basedow disease.

The study has a well-considered design; it implemented a modern mathematical and statistical apparatus, which allows a qualitative interpretation of the data obtained. The sample of patients is sufficient to obtain an adequate amount of data published in scientific journals. The dissertation work can be recommended as meeting the requirements for a PhD thesis.

Dissertation of *Zolotikh Valeriy Gennadievich* on the topic: "Study of immuno-endocrine reactions after silicone mammoplasty" meets the basic requirements established by Order No.11181/1 dd. 11/19/2021 "On the procedure for awarding academic degrees at St. Petersburg State University". The applicant *Zolotikh Valeriy Gennadievich* deserves to be awarded the academic degree of *candidate* of medical sciences in a scientific specialty 3.3.3. Pathological physiology 3.1.9. Surgery. Paragraphs 9 and 11 of the specified Order have not been violated.

*Alberto Rancati MD PhD*

*Member* of the Dissertation Council

Academic degree, academic title, position

Alberto Rancati



signature

Full name

Buenos Aires, May 13-2022

Date