

# USE OF NANO-DIAMOND IN COSMETIC MICRODERMABRASION

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## Introduction

Microdermabrasion consists of controlled mechanical abrasion of the epidermis. The intensity of the surgery depends on the degree of diamond gradation, vacuum used in the device, head shape, time and speed action and pressure. Microdermabrasion affects appearance epidermis and many changes that occur in the skin. Exfoliating the outer layers of the epidermis, purifies the skin with excess levels keratinocytes, sebum. Also narrows the sebaceous gland, smoothes out cuticle and gradually reduce the depth of the scar and reduce the visibility of wrinkles.

## Materials and Methods

### Materials

#### USG gel

Diamond powder without modifications with a diameter of 2-4 nanometers.

### Methods

The preparation was based on gel for USG in a ratio of 1 mg nano diamond powder without modifications per ml of gel.

Microdermabrasion is a procedure in which a smoothly moving head is covered with diamond microcrystals. The skin is sucked trough the head by the vacuum produced by the device.

## Results and Discussion

None of the had hypersensitivity reactions. What is more, no dermograph was observed.

The post-operative erythema was more rapidly resorbed by the ND application. Lack of response and irritation reaction (IR) and allergic reaction of AR [1-3].

## Conclusions

Faster recovery of erythema from irritation is a result of ND.

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## References

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FIG. 1. Skin before the microdermabrasion surgery.

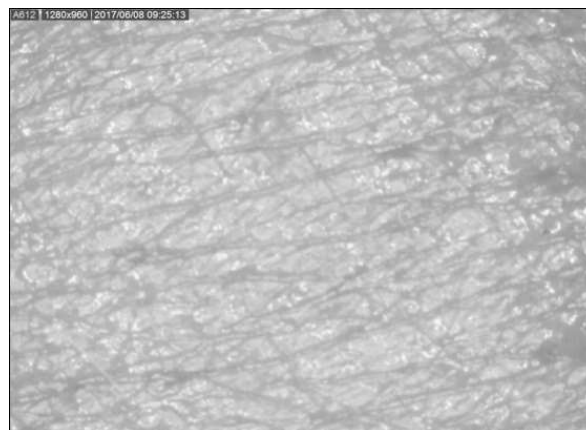


FIG. 2. Skin after microdermabrasion treatment, ND application with USG gel (1 ml per 1 mg).

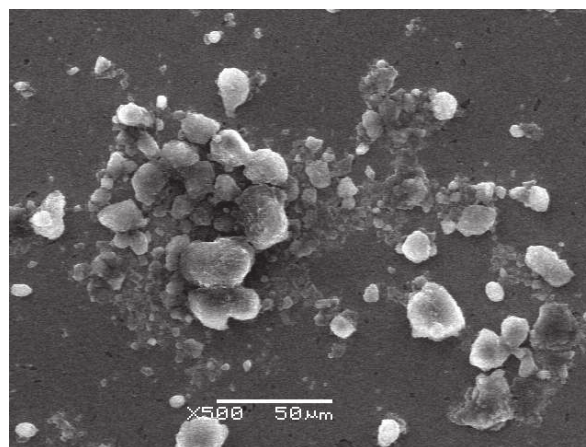


FIG. 3. Image of three-dimensional (3-D) structure of detonation nanodiamond particles (JEOL JSM-5500LV).