APAO 2019 BANGKOK
THE 34TH CONGRESS OF ASIA-PACIFIC ACADEMY OF OPHTHALMOLOGY
IN CONJUNCTION WITH
THE 43RD ANNUAL MEETING OF THE ROYAL COLLEGE OF OPHTHALMOLOGISTS OF THAILAND
THE SCIENCES AND ARTS OF OPHTHALMOLOGY
6-9 MARCH 2019, BANGKOK, THAILAND

Method of dacryostoma formation by controlled ablation during endonasal endoscopic dacryocystorhinostomy.

M.I. Shlyakhtov **Eye Microsurgery Center, Ekaterinburg, Russia**

Formation of nasolacrimal anastomosis is an important step during endonasal endoscopic dacryocystorhinostomy (EEDCR) which subsequently determines functional success of operation. Various methods of dacryostoma formation with or without preservation of nasal mucosa and medial lacrimal sac wall fragments are used. Each method has its pros and cons.

Purpose Clinical estimation of safety and efficacy of a gentle method of dacryostoma formation during EEDCR on the basis of coblation method.

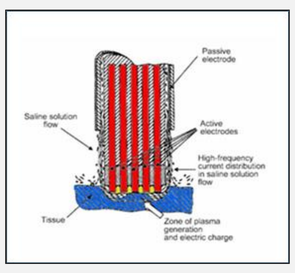
Methods We have operated 22 patients with unilateral obstruction of the vertical part of the lacrimal tract – 5 males (22.7%) and 17 females (77.3%). Mean age of the patients was 51.4 years. All the patients underwent EEDCR with bicanalicular stenting. Under endoscopic control cold plasma ablation of nasal mucosa fragment 10x8 mm was performed with the electrode of Coblator II ArthroCare unit (USA). A bone perforation 8 mm in diameter was performed with mill cutters up to baring of the lacrimal sac wall. The sac was filled with mixture of collargoll and viscoelastic in transcanalicular way. Under endoscopic control cold plasma ablation of the lacrimal sac medial wall fragment was performed until exit of the dye into the nasal cavity. The obtained window was enlarged, ablation of the lacrimal sac wall remnants was performed within the bone window. The operation was finished by bicanalicular intubation with Bika FCI silicone system (France) with clipping in the nasal cavity.

Results Post-op follow-up period was 3 to 12 months (mean, 6 months). Use of controlled ablation contributed to restoration of lacrimal passage in 20 of 22 cases (91%). Bleeding was insignificant during operation and was completely absent in post-op period. In 2 cases scarring of the rhinostomy was seen within 8 – 12 weeks period which was associated with treatment regime violation by the patients. These patients were recommended to be re-operated. Use of Coblator II bipolar radiofrequency electric surgical system has significantly reduced number of instruments needed for surgery, enlarged space for manipulations, improved visualization of the operation field. No complications were seen during operations. The duration of surgery in standard cases varied from 15 to 20.5 minutes.

Bipolar device Coblator® II (RF8000E) and electrode EIC 8875-01 ArthroCare (USA).

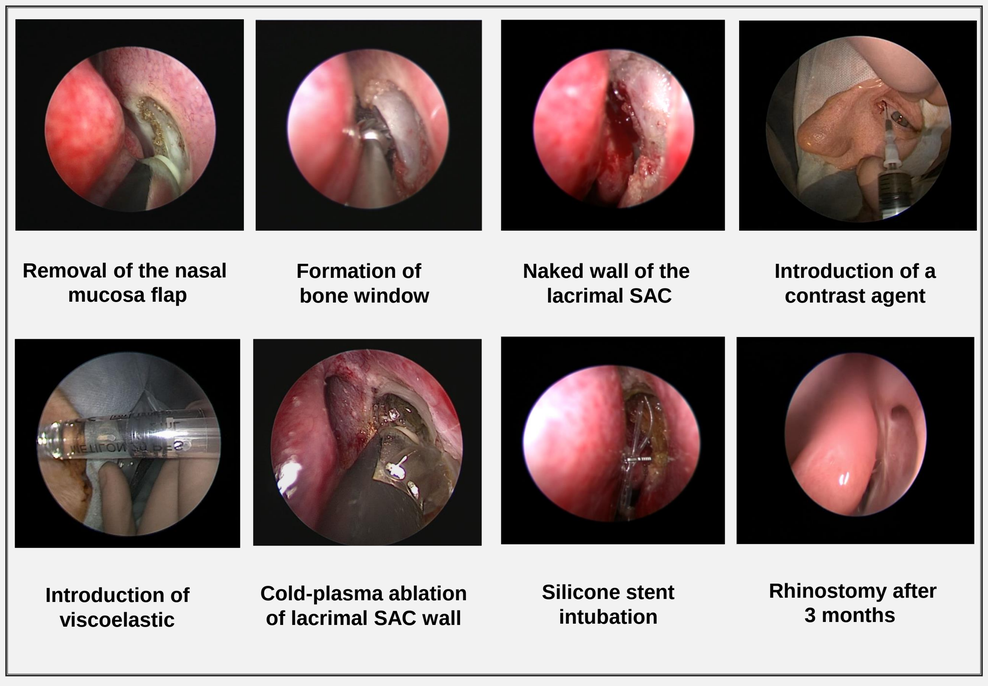
The term coblation comes from «Cold ablation» words. This procedure includes controlled low-temperature process of soft tissues dissolving by means of bipolar radio frequency energy in conducting medium (saline). Passage of radio frequency irradiation through saline forms a cloud of high energy sodium chloride ions plasma which has enough power to destroy organic molecular bonds in soft tissues causing their dissolving.


EIC 8875-01 ArthroCare electrode



When exposed to cold plasma simultaneous dissection – ablation and coagulation of tissues and vessels occur. No tissue imbibition with blood takes place. Absence of thermal effect on nerve endings sufficiently reduces pain in post-op period. Post-op period after such operations is much quicker and easier, with less pain and low risk of complications.

Stages of operation



Conclusions 1. Use of cold plasma ablation of soft tissues during EEDCR allows highly efficient forming of an adequate nasolacrimal anastomosis, facilitates and speeds up surgery, minimizes possibility of complications.

2. Injection of dyed viscoelastic into the lacrimal sac as an indicator of medial wall perforation during rhinostomy formation significantly reduces the risk of underlying structures damage which reduces frequency of recurrence due to scarring of anastomosis.

3. Controlled low temperature ablation process with the use of bipolar radiofrequency energy enables better healing in shorter terms.

Disclosure of the Conflict of interest In relation to this presentation, I declare that there are no conflicts of interest.
FINANCIAL DISCLOSURE: **In the presented report the author has no financial interest.**
CONTACT INFORMATION: Tel:+7(343)2406292 Fax: +7(343)2310043 E-mail: brabus1406@yandex.ru 620149, Bardin Str. 4A Ekaterinburg, RUSSIA