

# **AEO Congress 2015**

## **INSUFFICIENT COJNJUNCTIVAL CAVITY. CONSERVATIVE AND SURGICAL TREATMENT**

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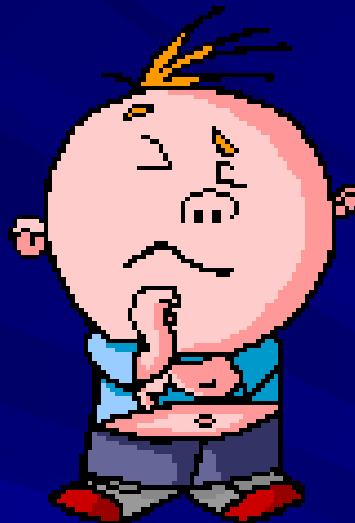
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*surgeon*



*ocularist*



■ Insufficient conjunctival cavity - what should we do in this case?

Each of us faced with this problem and had a choice:

who is responsible for it?

Surgeon? Ocularist? Patient? How can we help?

Ocularist thinks: I can send a patient to surgeon. He should do the plastic with transplantation of

mucous and formation of fornixes... and then I'll do the prosthesis. Surgeon thinks the same ■

## OUR EXPERIENCE

**Excessive scarring deforms the area for surgery**



*Before surgery*



*After the series of reconstruction surgeries*

But often after the surgery we get a result worse than in was before. The patient suffers in each case. And he doesn't know what to do. In the begging of our practice we've got a negative experience after these procedures.

**All authors have the same points.**

et al. 1996

*Flanagan J.G., et al. 1970*

<b>Enucleation after severe injury with conjunctiva loss</b>	<b>Orbital implant migration to the area of posterior fornix</b>
<b>Wrong steps of surgical technique at enucleation</b>	<b>Surgical revision of cavity after implant rejection</b>
<b>Burns (thermal, chemical, radiation)</b>	<b>Chronic conjunctivitis</b>
<b>Long-term usage of worn-out prostheses</b>	<b>Poor hygiene of cavity</b>
<b>Late postoperative prosthesis</b>	<b>Usage of chipped or rough prostheses</b>
	<b>Wearing prostheses unsuitable for cavity</b>

**All authors have the same points.**

# The main reasons of insufficient conjunctival cavity are:

- 1. Congenital anophthalmia or microphthalmia
- 2. Severe trauma and burns
- 3. Non correct surgical technique in case of removal of the eye
- 4. Exposure and rejection of the implant
- 5. Breaking the rules of using of the ocular prosthesis
- 6. Late primary post-operative prosthetics
- 7. Chronical conjunctivitis as a result of using old, damaged or unsuitable prosthesis





# CONGENITAL ANOPHTHALMIA

**Result of 10 plastic surgeries was a cavity scarring**



**In the beginning of my practice I've faced with a negative result of surgical treatment and bad prosthetic in case of congenital anophthalmia.**

**This girl came to us at age 12, the socket was formed with skin and because of this reduction we could use a very small and thick prosthesis without iris**



# CONGENITAL ANOPHTHALMIA

Face asymmetry due to inopportune and inadequate prosthesis



8 years old



11 years old

This is 8 year old boy. We worked hard to expand the cavity with compound form prosthesis.

# CONGENITAL ANOPHTHALMIA

14 prosthesis



13 years old

But, unfortunately, we also get  
unsuccessful result

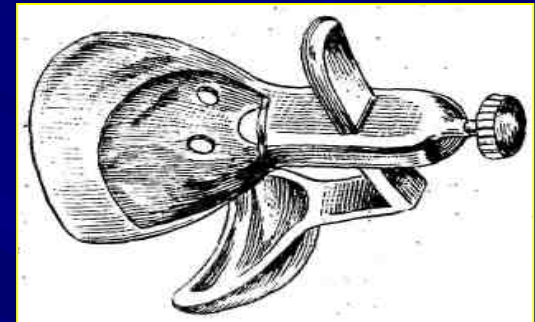
# MECHANICAL EXPANDING OF CAVITY

## Fenestrated prostheses

*Sverdlov D.G., Tchastniy F.E., 1954*



## Csapody expander



## Expander prosthesis and olives

*Filatova I.A., 2007*



## Hydrophilic tissue expander

*Guthoff R.F., 2006*



With our own experience and analysis  
of experience of our colleagues from  
different countries



# OUR EXPERIENCE



**4 – 6 prostheses**



**7 – 12 prostheses**

we begin to produce a set of prosthesis  
for expanding of the socket with  
different pathologies

# OUR EXPERIENCE CONGENITAL ANOPHTHALMIA



1.5 months old



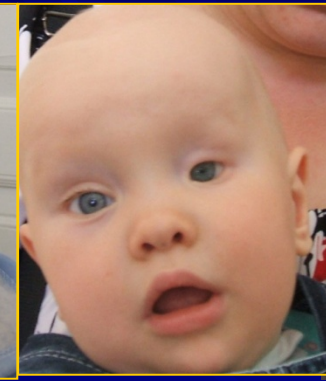
3 months



6 months



7 months



11 months



1 year  
8 months



5 years old

Conservative cavity expanding

For example in case of congenital anophthalmia we start to use this ready-made set and individual prosthesis till age 5 or 6 years, and when the cavity is stretched enough but we still have a tendency for entropy of lids and lashes we can perform a surgical correction of the socket



**NOW**  
**7 years old**  
**1 year after surgery**



After that the lids have a normal position, the cavity become more suitable for the prosthesis and we can use a smaller size.

# OUR EXPERIENCE CONGENITAL ANOPHTHALMIA

## Asian type



## European type



We found out that form and size of the prosthesis in cases of congenital anophthalmia should be chosen considering the national face type with its' anatomical structure specific, and the size of healthy Eye. For example for patient with Asian type we can have epicanthus it is normality, but it is abnormality for the European type.



# MICROPTHALMIA ONLY

conservative cavity



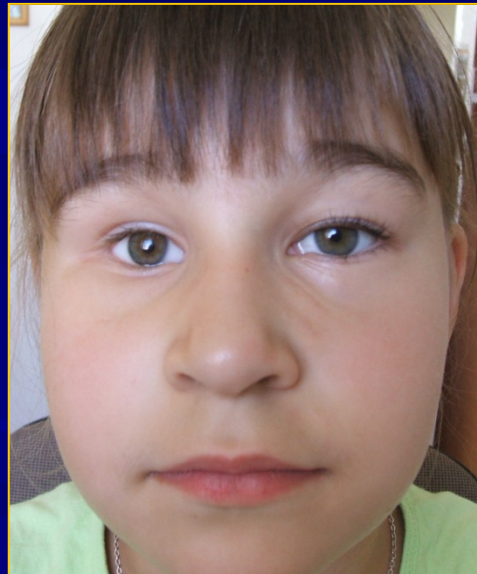
expanding



In cases of congenital microphthalmia we get a good results after a conservative expanding of the socket.

# **SURGICAL TREATMENT**

**Formation of functional stump in 10 years after retinoblastoma removal**



**Step prosthetics**

**Surgery, 14 y.o.**

In cases of retinoblastoma we can perform a plasty from age 14-15 years old.



# CAVITY REDUCTION

**After enucleation due to a  
phacomatosis node within  
the right orbit**



**Sometimes conservative tactic was enough for a good cosmetic result. When there was no possibility to expand the socket with conservative tactic we performed a plasty with using of mucous and auto derma as a first step.**



# After teratoid tumor removal within the right orbit



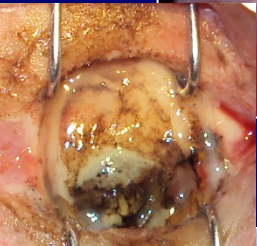


# **SURGICAL TREATMENT**

**Formation of functional stump after traumatic eye removal and severe burn**



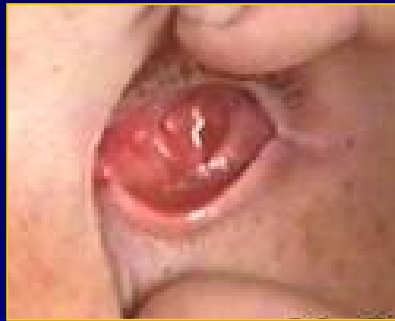
**6 surgical operations**



**This 12 years old boy had 6 operations after traumatic eye removal and severe burn. We performed the plastic of lids, socket and eye lashes transplantation.**

# CAVITY REDUCTION

Using of fenestrated prostheses form in cases of orbital implant exposure



Using of fenestrated prostheses form in cases of orbital implant exposure allow us to save the size of cavity big enough for the prosthetics.



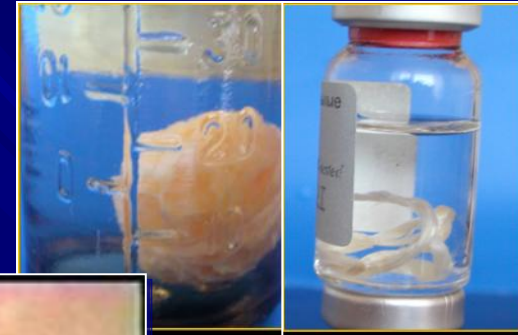
# 80% CAVITY REDUCTION

After a long-term usage of a worn-out prosthesis



In adults the result was based on the discipline and patience of the patients.  
In 80 % of cases we get a good result with conservative expanding tactic.

# 15% PRIMARY SURGICAL TREATMENT



**Delayed stump implantation with a combination  
of blepharoplasty and entropion repair**

In 15 % we performed surgery with using of different materials.

In 5 % cases we used both methods: conservative and surgical



# Bilateral anophthalmia and traumatic ankyloblepharon





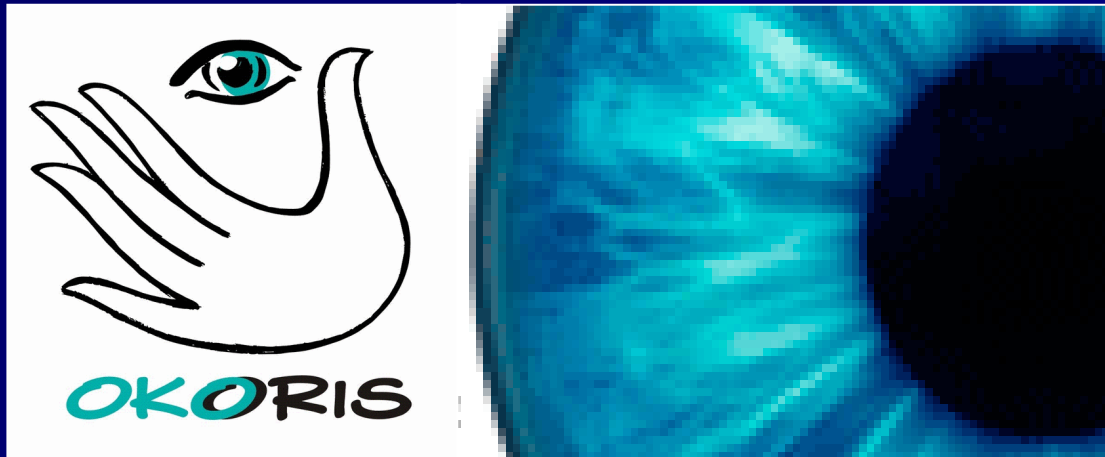
A large number of artificial eyes (proteas) are arranged in a circular pattern on a yellow surface. The eyes have various iris colors, including blue, brown, and green. They are mounted on a yellow, translucent, circular base that has a scalloped edge. The background is a light-colored, textured surface.

**Conservative treatment – 102 patients (77,6%)**  
**Surgical treatment – 26 patients (22,4%)**

# RESUME

- Reduction of conjunctival cavity was observed in 10% of patients with anophthalmia.
- ONLY conservative cavity expanding - 79,6 %.
- Surgical reconstruction of the cavity for an artificial eye is one of the most complex part of ophthalmoplasty. Results are not always predictable.
- Reoperation is necessary in 29.6% of cases.

# THANKS FOR YOUR ATTENTION!



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