Paramedian Forehead Flap for Ocular Adnexal Reconstruction

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Case Presentation

- **CC**: Blast injury of right peri-ocular area
- **HPI**: 47 year-old male presents 9 days after ruptured globe repair OD for further evaluation and treatment. He reports working on a hydraulic pipe used in the machinery to crate fruit when it exploded in his face. He denies the use of eye protection.
- **PMH**: None
- **Social Hx**: 1 PPD smoker

Exam

- Eye Exam
- External Exam
How should this be repaired?

Options

- Primary Closure
- Tissue Flap
- Wound
- Tissue Graft
- 2ndary Intention

Normally...

Back to our dilemma

- Loss of lids
- Moderate defect
- Active smoker
- Normal skin elasticity
- Aesthetics
What does the BCSC book say?

A forehead flap that takes advantage of the vascular supply of the supratrochlear artery.

What is a Paramedian Flap?

- A forehead flap that takes advantage of the vascular supply of the supratrochlear artery.
- A useful flap because of the axial design, narrower base, and greater effective length.
- They are the reconstructive mainstay for nasal defects.

The Ancient Texts

- The Sushruta Samita (~700 BC)
- Surgery was performed by the Koomas.
- The need for the operation arose from the common practice of amputating the tip of the nose.

A Little More History
It is estimated that 5.4 million cases of non-melanoma skin cancer, including basal cell carcinoma and squamous cell carcinoma, were diagnosed in the U.S. in 2012.

The annual cost of treating non-melanoma skin cancer in the U.S. is estimated at $4.8 billion.

Paramedian Flap
- Flap design
- Flap mobilization
- Flap secured
- Forehead closure
- Pedicle division & inset

Paramedian in Oculoplastics
- First introduced in our literature in 1981.
- In 2004, Bartley and Garrity presented a series of 18 patients utilizing the flap for intermediate sized periorbital defects.
- The flap can be split to allow simultaneous reconstruction of the upper and lower lid.

Anterior Lamellar Reconstruction
- Pre-Resection
- Post-operative Month 4
- Pre-Operative
- Post-operative Year 2
Conclusions

- The paramedian forehead flap is a versatile alternative for ocular adnexal and socket reconstruction.
- This is especially true in cases of moderate to large, complex defects or tissue loss that preclude smaller advancement flaps or skin grafting.
- It can be employed especially when local blood flow may be compromised by trauma, radiotherapy and/or smoking history.

Thanks