Abstract 37. Pediatric Orbital Floor Fractures: Clinical and Radiological Predictors of Tissue Entrapment and the Effect of Operative Timing on Ocular Outcomes

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over free flaps for fear of impairing flap perfusion and/or assessment. In 2011 we described the use of NPDs over skin grafted free muscle flaps in 13 cases, showing favorable results.

METHODS: We performed a retrospective review of these cases performed at 2 institutions over a 6 year period.

RESULTS: The majority of flaps were for lower extremity trauma wounds (74), followed by upper extremity trauma wounds (8), scalp tumor defects (4), and one torso wound. There were 7 flap losses, but of these, 4 were due to non-compliance with postoperative immobilization/elevation orders; excluding these 4 failures for which the NPD was clearly not a factor, the flap success rate was 96.4%. Skin graft healing was uniformly excellent, with the exception of the above 7 cases, as well as 2 graft losses due to disruption during flap takeback, 2 partial graft losses due to infection, and 1 partial graft loss due to hematoma. In only one case (a scalp flap), the NPD was discontinued early, on postoperative day 1, due to inability to maintain a seal.

CONCLUSION: This series strongly suggests that NPDs do not contribute to free flap failure. While we do believe there are important technical caveats to NPD placement over free flaps, we feel that NPDs are safe, effective, and in many ways advantageous in this setting.

36.

COST ANALYSIS OF TWO STAGED IMPLANTS WITH ALLODERM AND DEEP INFERIOR EPIGASTRIC PERFORATOR FLAP AUTOLOGOUS RECONSTRUCTION

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PURPOSE: Two staged tissue expander-implant reconstruction with acellular matrix (TE/I+ADM) and deep inferior epigastric perforator flaps (DIEP) are the most common implant and autologous methods of reconstruction in the U.S. respectively. Implant based techniques are disproportionately more popular, partially due to their presumed cost effectiveness. METHODS: We performed a comprehensive cost-utility analysis to compare (TE/I+ADM) and (DIEP). Medicare reimbursement costs for each procedure and their associated complications were calculated. Pooled probabilities of complications including cellulitis, seroma, skin necrosis, implant removal, flap loss, partial flap loss, and fat necrosis, were calculated using studies from 2010–2016.

RESULTS: The average cost for a successful TE/I+ADM and DIEP were $13,680.75 and $10,237.13 respectively. Incorporating pooled complication data from the published literature, an excess cost of $14,348.2 for TE/I+ADM and $11,395 for DIEP reconstruction was calculated. The expected costs for a successful TE/I+ADM and DIEP reconstruction were $9,974.63 and $7,395.30, significantly lower than the actual costs.

CONCLUSION: When comparing TE/I+ADM to DIEP flap reconstruction, DIEP flaps are more cost effective both at baseline and when factoring pooled complications and secondary procedures. These findings can be used to develop a decision analysis model when providing care to patients.

37.

PEDIATRIC ORBITAL FLOOR FRACTURES: CLINICAL AND RADIOLOGICAL PREDICTORS OF TISSUE ENTRAPMENT AND THE EFFECT OF OPERATIVE TIMING ON OCULAR OUTCOMES

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PURPOSE: To determine the clinical and radiological predictors of tissue entrapment in pediatric orbital floor fractures and to explore the effect of operative timing on ocular outcomes.

METHODS: We retrospectively reviewed the medical records of pediatric patients (aged <18 years) who acutely
presented with orbital floor fractures from October 2007 to
October 2015.

RESULTS: 152 patients with 159 orbital floor fractures
were included. 122 (80.3%) patients were male, and the
mean age was 12.2 years. Twelve patients (7.9%) sustained
orbital floor fractures with tissue entrapment. At presenta-
tion extraocular movement (EOM) restriction, diplopia,
ausea, and vomiting were all associated with tissue entrap-
ment (P<0.001). Amongst patients with trapdoor fractures,
the presence of nausea and/or vomiting was predictive of
tissue entrapment: positive predictive value 80%, negative
predictive value 100%. For patients with tissue entrapment,
poorer ocular outcomes (persistent EOM restriction and
diplopia) were significantly associated with the length of
operation (P=0.007), but not with the time interval to opera-
tion (P=0.146).

CONCLUSION: Nausea and vomiting are valuable predic-
tors of tissues entrapment, particularly when EOM restric-
tion and diplopia are equivocal. In our study, radiological
findings were predictive of entrapment, but a lack of con-
sistent language in this area limits the external validity of
these results. Our study draws attention to the relationship
between operation length and poorer ocular outcomes, sug-
gest that case severity/complexity and surgeon tech-
tique/experience may influence ocular outcomes.

38.
ATYPICAL PROLIFERATIVE LESIONS
AFTER REDUCTION MAMMAPLASTY:
INCIDENCE AND IMPLICATIONS IN 993
REDUCTIONS

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PURPOSE: Reduction mammoplasty occasionally reveals
unsuspected proliferative lesions or carcinoma. Few stud-
ies examine incidence, risk factors, and outcomes in this
population.

METHODS: Retrospective review was performed between
2000 and 2012. Pathology was categorized as benign, pro-
liferative, or cancer (DCIS or invasive).

RESULTS: Five hundred seventy-three patients had 993
reduction mammoplasties (85% bilateral, 15% unilateral).
Cancer was detected in 23 (2.3%) specimens and prolif-
erative lesions in 148 (14.9%). Compared to patients with
benign pathology, patients with proliferative lesions or
cancer were older (p<0.001), with larger BMI (p=0.001),
increased unilateral procedures (p<0.001) and more had
a history of cancer (p<0.001). On multivariate regression
analysis, age and prior breast cancer were independent risk
factors for proliferative lesions (OR 1.057, CI 1.039–1.075,
p<0.001 and OR 2.201, CI 1.291–3.752, p=0.004) and age
significantly predicted cancer (OR 1.050, CI 1.009–1.093,
p=0.015). There was no association with resection weight
(p>0.5). Fifty-four percent of patients with proliferative
lesions and no history of cancer had a change in manage-
ment with increased surveillance, hormones, radiation, che-
motherapy, or surgery. If there was a history of cancer, 31%
had a change in management. Of patients with DCIS or can-
cer, all required treatment.

CONCLUSION: Proliferative lesions of the breast may be
more common that previously reported. Age and a history
of breast cancer increase risk for proliferative lesions. All
should be referred to oncology.

39.
A COMPARISON OF OPEN VERSUS
ENDOSCOPIC CARPAL TUNNEL
RELEASE WITHIN THE SAME PATIENT

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PURPOSE: Several studies have shown less postopera-
tive pain and faster improvement in grip and pinch strength
with the endoscopic technique. The goal of this study was to
prospectively examine subjective and functional outcomes,
satisfaction, and complications after both ECTR and OCTR
in the opposite hands of the same patient.

METHODS: This was a prospective, randomized study in
which patients with bilateral carpal tunnel syndrome under-
went surgical release with both endoscopic and open tech-
niques. The initial operative approach utilized was randomly
assigned to the more symptomatic hand. Demographic data