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耳后头皮推进瓣急诊即刻修复创伤性耳郭部分缺损的临床效果观察

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摘要 目的:探讨耳后头皮瓣急诊即刻修复耳郭部分缺损的可行性与临床效果。**方法:**对 2013 年 1-12 月来我院急诊的 7 例外伤后耳郭部分缺损的患者(均为男性,年龄 22-50 岁;其中右耳 4 例,左耳 3 例)采用耳后头皮推进瓣即刻修复,以耳郭缺损耳后皮肤及头皮皮肤做推进瓣,将断离的耳郭去皮保留软骨与耳郭断端软骨缝合形成软骨支架,推进皮瓣部分卷曲缝合形成耳轮结构修复耳郭缺损。**结果:**7 例耳郭部分缺损均在急诊环境下即刻修复,耳郭大小和形态满意,颅耳角略变小,随访 3~6 月耳郭形态稳定。**结论:**耳后头皮推进瓣卷曲缝合可在急诊条件下即刻修复耳郭部分缺损,具有治疗周期短,一次达到较满意外形的优点,对于无条件行二期手术的患者具有较大意义,其远期效果尚有待进一步随访。

关键词:耳郭缺损;头皮瓣;急诊

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Observation on the Clinical Effect of Immediate Repair of Part Auricle Defect with Crimp Scalp Flap on Post Arum and Mastoid Region

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ABSTRACT Objective: To investigate the feasibility and clinical effect crimp scalp flap on post aurem and mastoid region on immediate repair of part auricle defect. **Methods:** 7 patients (all males, age 22-50, 4 cases right ear, 3cases left ear)with part auricle defect were immediately repaired, using the crimp scalp flap on post aurem and mastoid region from January to December in 2013. Firstly, an advancement skin flap on post aurem and mastoid region was made. Secondly, the skin of the severed ear was removed and its cartilage was retained, then the broken ends of auricle cartilage were sutured to form cartilage bracket. Finally, the auricle defect with crimp scalp flap on post aurem and mastoid region were restored to form the helix structure. **Results:** Seven cases were applied with this method to repair immediately the defect in the emergency environment. The sizes of auricle contour were good, yet the cranio auricular angles were slightly smaller. The ear shape was stable in 3-6 months' follow-up. **Conclusion:** Crimp scalp skin flap on post aurem and mastoid region could immediately repair the part auricle defect, which had the advantage of short treatment cycle, satisfactory clinical effect at the first treatment and was of great importance for the patients without the condition of two-stage operation, its long-term effect was still needed to be followed-up.

Key words: Part auricle defect; Scalp flap; Emergency treatment

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前言

耳郭是构成人体面部外观的重要器官之一,由于其位置突出,极易在各种交通事故及创伤中造成损伤。对于耳郭部分完全断离患者,缺损较大的以往多采用急诊清创关闭创面,3 月到半年疤痕稳定后再行取肋软骨雕刻成耳郭支架,局部皮瓣加耳后筋膜组织瓣修复的方法^[1-3],此术式已被证实效果稳定。但急诊外伤患者多为经济条件较差的体力劳动者,其中只有少部分能接受二次手术修复,且部分近视患者有佩戴眼镜的需求,因此大多患者迫切要求能急诊一次修复外形,达到相对满意的

效果。我科 2013 年 1 月起在急诊条件下采用耳后头皮推进瓣卷曲缝合方法即刻修复部分耳郭缺损,取得了较满意的临床效果。

1 资料和方法

1.1 临床资料

选择 2013 年 1-12 月上海交通大学医学院附属第九人民医院急诊收治的耳外伤患者 7 例,均为男性,年龄 22-50 岁。4 例右耳,3 例左耳。耳郭上 2/3 缺损一例,上 1/3 缺损 5 例,中 1/3 缺损 1 例。人咬伤 5 例,刀砍伤 2 例。6 例仍保留游离断耳,一例游离断耳缺失。就诊时间为外伤后 1 小时 -24 小时。耳郭缺损范围从耳轮到耳甲腔不等,伤口较清洁,无继发感染。

1.2 手术方法

1.2.1 麻醉与消毒 手术局麻下进行,首先行患耳周围三指宽

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备皮,用刷子及肥皂水刷干净头皮及断耳周围皮肤上血痂。进一步消毒前为减少患者痛苦,取麻醉科利舒卡气雾剂^[4](主要成分利多卡因)在创面局部喷射二次,每次间隔 1 分钟,每次按三下。待 2 分钟左右患者疼痛减轻后进一步用双氧水^[5],0.01%的苯扎氯铵溶液^[6]及碘伏溶液^[7]冲洗创面,洗净创面的血痂,异物,反复三次至创面清洁,少量新鲜血液渗出。1%利多卡因加肾上腺素于创面局部注射麻醉后用手术刀局部止血。游离耳郭组织一般直接泡于碘伏溶液中消毒备用。

1.2.2 耳后头皮瓣设计与形成 沿耳轮缺损边缘向耳后做扇形切口至耳后头皮。耳后沿软骨膜仔细分离,头皮沿浅筋膜层分离,皮瓣长度为能覆盖缺损并能部分卷曲形成耳轮且要保证张力适当,分离时注意皮瓣血运,一般采用整形剪刀锐性分离,明显出血点时才用电刀电凝止血,(图 1)。

1.2.3 形成软骨支架 将游离断耳皮肤与软骨分离,皮肤弃用,软骨保留,尽量保留软骨膜(图 2)。用强生 5-0 可吸收缝线

将软骨对位缝合于原位形成软骨支架。因耳郭软骨较薄,缝合时一般全层穿过软骨膜软骨固定。将耳郭软骨用 1 号丝线向后缝合于浅筋膜上,可以消灭耳后死腔,同时减少耳后皮瓣需要长度,但是不可避免的减小了颅耳角(图 3)。

1.2.4 形成耳轮结构 将耳后头皮瓣向前缝合修补缺损,与残耳耳轮对接处皮瓣卷曲缝合形成耳轮结构。为尽量减少皮瓣张力,使用 1 号丝线尽量将头皮瓣向前固定于浅筋膜层。为使得耳轮结构更加逼真,使用 1 号丝线于头皮侧及耳轮内侧对穿缝合收紧耳轮。为保证皮瓣血供一般只收 2 针,术后注意观察皮瓣颜色,如皮瓣颜色欠佳及时拆除,经过这几例患者观察均无缺血现象(图 4)。

1.2.5 负压与包扎 于耳后软骨与皮瓣间隙留置 MINI 负压球一枚,自耳下头皮引出,5 天左右拔除。通过负压进一步减少了死腔,减少积液,负压也能起到塑形作用。再用凡士林纱条剪成细长条填压在耳甲腔进一步塑形,最后单耳包扎固定。



图 1 耳后沿缺损做扇形耳后头皮瓣

Fig.1 Make the fan-shaped scalp flap along the defect



图 2 将断耳皮肤去除保留软骨

Fig.2 Remove the skin from the severed ear and reserve the cartilage



图 3 将软骨缝合于原位形成支架

Fig.3 The cartilage was sutured in situ to form the bracket



图 4 耳后头皮瓣向前卷曲缝合形成耳轮

Fig.4 The crimp scalp flap was sutured to form the helix view



图 5 一周拆线后效果正面

Fig.5 The effect of the ear after a week stitches from the front view



图 6 一周拆线后效果侧位

Fig.6 The effect of the ear from the side view

2 结果

7例患者创面均Ⅰ期愈合,无皮瓣坏死感染,耳郭外形满意,仅颅耳角变浅,随访3~6月,效果满意(图5、6)。

3 讨论

3.1 耳郭缺损特点及常用修复方法

耳郭是构成人体面部外观的重要器官之一,由于其位置突出,极易在各种交通事故及创伤中造成损伤,从而给患者心理上带来极大的伤害。目前,国内外学者报道最多的是切除耳郭肿瘤后导致的耳郭缺损,外伤耳郭缺损二期修复及先天性耳郭缺损再造的方法,而对于急诊外伤导致的耳郭缺损,由于伤口局部污染等原因,大多学者采用急诊直接清创缝合关闭创面,三月到半年后再行缺损修复的方法。但是延期手术也造成了患者心理及经济的负担(在我国很多外伤患者相对生活不富裕,很少能接受分期耳郭修复手术)。残耳也可能因为局部疤痕增生等影响手术效果。很多患者因此放弃了治疗。

传统耳郭缺损修复方法包括:对侧耳郭复合组织瓣游离移植^[8]、皮管法^[9,10]、耳后乳突皮瓣(隧道)法^[11,12]、耳后皮下蒂皮瓣法^[13]、耳后皮肤扩张器扩张^[14,15]等。方法多,但大多不适用于急诊条件下耳郭即刻修复。耳郭支架多采用耳郭软骨、肋软骨^[16]及MEDPOR材料^[17,18],急诊条件下仅能采用耳郭软骨。

3.2 耳后头皮瓣卷曲缝合即刻修复耳郭缺损的适应证与优点

耳后头皮瓣卷曲缝合即刻修复耳郭缺损的方法主要适用于缺损面积不超过2/3,且最好保留断耳软骨支架的缺损患者,缺损时间<24小时的相对清洁伤口。其优点主要包括:①急诊即刻修复,创伤小,恢复快,适合一些对外形有要求但无条件二期手术患者;②保留软骨支架,皮瓣卷曲缝合后再造耳轮的厚度,弧度逼真,外形效果比较满意;③头皮瓣血供非常丰富,只要操作得当,注意皮瓣的适当长宽比例^[9],很少有皮瓣缺血坏死问题的发生。

3.3 手术中需要注意的问题

3.3.1 如何防止感染 急诊条件下手术,防止感染是关键。一般外伤后最佳缝合时间是6小时内,头面部血液丰富可适当放宽至8~12小时,但不是超过12小时就一定不能缝合了,只是时间越长越容易感染,我科收治的患者有一大部分是周围省市转我院,大多超过12小时,但未超过24小时,转院前当地医院已经进行简单消毒伤口及包扎,因此创面相对清洁。我科在皮瓣手术前彻底清洗伤口,术者一般采用双氧水^[5]、苯扎氯铵^[6,7]溶液加碘伏溶液^[5]反复冲洗伤口三遍,手术中彻底止血,尽量消灭死腔,术后放置负压引流^[20],一般5天拔除,术后单耳包扎,三天后打开观察皮瓣颜色,术后常规抗生素补液加活血药物三天。

3.3.2 如何保证血运 耳后皮瓣分离时,残耳郭后方沿软骨膜分离,头皮部分沿颞浅筋膜分离。设计扇形切口可确保蒂部够宽,保证皮瓣血运。皮瓣长度为能覆盖缺损并能部分卷曲形成耳轮且要保证张力适当,一般设计扇形皮瓣长宽比1.5:1左右。

3.3.3 软骨支架的作用及吸收问题 断耳软骨支架虽然远期会部分吸收,但保留软骨支架对皮瓣塑形帮助很大,近期效果

明显。表面覆盖皮瓣充足的血供是减少断离回植耳郭软骨吸收的关键。远期效果还有待进一步随访观察及病例积累。

3.4 耳后头皮瓣卷曲缝合即刻修复耳郭缺损的缺点

耳后头皮瓣卷曲缝合即刻修复耳郭缺损可能会导致颅耳角不同程度减小,有条件患者可考虑二期断蒂掀起耳郭、耳后植皮恢复扩大颅耳角。

综上所述,应用耳后头皮瓣卷曲缝合可在急诊条件下修复外伤性部分耳郭缺损,具有治疗周期短,创伤小,效果可靠的特点,特别适用于有外形美容要求,但没有二期手术条件的外伤后耳郭部分缺损的患者,此方法值得临床推广。

参考文献(References)

- [1] Younis I, Gault D, Sabbagh W. Patient satisfaction and aesthetic outcomes after ear reconstruction with a Branemark-type, bone-anchored, ear prosthesis: 16 Year review[J]. Plastic Reconstruction Aesthetic Surgery, 2010, 3(63):1650-1650
- [2] Magritz R, Siegert R. Reconstruction of the avulsed auricle after trauma [J]. Otolaryngol Clin North Am, 2013, 46(5): 841-855
- [3] Louis PJ, Aponte-Wesson RA, Fernandes RP, et al. Autogenous and prosthetic reconstruction of the ear [J]. Oral Maxillofac Surg Clin North Am, 2013, 25(2):271-286
- [4] Liu Xiao-hong, Ren Cong-cai, Jiang Hai-yang. Application of Lidocaine Aerosol in the circumcision of children [J]. Chinese Journal of Modern Nursing, 2013, 19(26):26
- [5] Zhang Xiao-tao, Jin Han-jie. Observation of Hydrogen peroxide and povidone-iodine solution combined subcutaneous fine drainage tube in the prevention of appendicitis wound infection[J]. Chinese Journal of Ethnomedicine and Ethnopharmacy, 2013, 22(15):15
- [6] SHI Zhong-qi. Clinical effect observation on orthopaedic open wound cleaning and disinfection by benzalkoniumchloride [J]. China Medicine and Pharmacy, 2012, 2(19):19
- [7] Conroy BP, Anglen JO, Simpson WA. Comparison of castile soap, benzalkonium chloride and bacitracin as irrigation solutions for complex contaminated orthopaedic wounds [J]. Jr Orthopaedic Truma, 1999, 23(13): 332-337
- [8] Zhang Di-sheng. Plastic and Reconstructive Surgery[M]. Shanghai science and Technology Press, 2002, 14(15): 900-930
- [9] Alireza Ghassemi. Surgical Management of Auricular Defect Depending on the size, location, and tissue involved [J]. Oral Maxillofacial Surgery, 2013, 24(71): 232-242
- [10] Di Mascio D, Castagnetti F. Tubed flap interpolation in reconstruction of helical and ear lobe defects [J]. Dermatologic Surgery, 2004, 13(32): 572-578
- [11] Adler N, Ad-EL D, Azaria R. Reconstruction of nonhelical auricular defects with local flaps [J]. Dermatologic Surgery, 2008, 3 (13): 501-507
- [12] Stiller MB, Gerressen M, Modabber A. Anteriorly pedicled retroauricular flap for repair of auricular defects [J]. Aesthetic Plastic Surgery, 2012, 12(36): 623-623
- [13] Li Jun-Hui, Xing Xin. Subcutaneous pedicle limberg flap for facial reconstruction[J]. Dermatologic Surgery, 2005, 5(6): 949-952
- [14] Brent B. Technical advances in ear reconstruction with autogenous rib cartilage grafts: Personal experience with 1200 cases[J]. Plastic and Reconstructive Surgery, 1999, 7(2): 319-322 (下转第 1352 页)

DSA 设备作为大型精密影像仪器需要进行定期维护和保养,从而有效减少或避免故障发生几率,保证设备正常运行,进而延长使用寿命。我们认为,预防性的维护和保修是设备管理的重要环节,不仅降低了维修成本,而且提高了设备的使用效率,避免不必要的资源浪费。

参考文献(References)

- [1] Kang B, Kim H C, Chung J W, et al. The origin of the cystic artery supplying hepatocellular carcinoma on digital subtraction angiography in 311 patients [J]. Cardiovasc Intervent Radiol, 2014, 37(5): 1268-1282
- [2] Dong Yong-pan. Ordinary service and maintenance of digital subtraction angiography system [J]. China Medical Equipment, 2010, 7(5): 45-46
- [4] Zhou Jian-hong. Breakdown analysis and maintenance of Toshiba DSA system[J]. China Medical Equipment, 2009, 6(3): 46-47
- [5] Zeng Jin-qing, Chen Song-xiong, Wang Yao-Biao, et al. Problems Analysis, Repairmen and Maintains of Water Cooled Engine of GE DSA[J]. China Medical Devices, 2011, 7(26): 136-138
- [6] Stidd DA, Wewel J, Ghods AJ, et al. Frameless neuronavigation based only on 3D digital subtraction angiography using surface-based facial registration[J]. J Neurosurg, 2014, 121(3): 745-750
- [7] Hu Zhi, Huang Huang-jing, Liu Man-fang, et al. Preventive Maintenance of AXIOM Artis DTA System [J]. China Medical Devices, 2009, 24(8): 130-131
- [8] Jie Tian, Jian Xue, Yakang Dai, et al. A Novel Software Phfform for Medical Image Processing and Analyzing[J]. IEEE Transaction on Information Technology in Biomedicine, 2008, 12(6): 800-812
- [9] Cao W, Huang L, Ge L, et al. A simple score (AVFS) to identify spinal dural arteriovenous fistula before spinal digital subtraction angiography[J]. J Stroke Cerebrovasc Dis, 2014, 23(8): 1995-2000
- [10] Huang J, Degnan AJ, Liu Q, et al. Comparison of NASCET and WASID criteria for the measurement of intracranial stenosis using digital subtraction and computed tomography angiography of the middle cerebral artery[J]. J Neuroradiol, 2011, 27(6): 596-610
- [11] Spiegel M, Redel T, Struffert T, et al. A 2D driven 3D vessel segmentation algorithm for 3D digital subtraction angiography data [J]. Phys Med Biol, 2011, 56(19): 6401-6420
- [12] Han A, Yoon DY, Chang SK, et al. Accuracy of CT angiography in the assessment of the circle of Willis: comparison of volume-rendered images and digital subtraction angiography [J]. Acta Radiol, 2011, 52(8): 889-982
- [13] Fanti Z, Martinez-Perez ME, De-Miguel FF. Neuron Growth, a software for automatic quantification of neurite and filopodial dynamics from time-lapse sequences of digital images[J]. Dev Neurobiol, 2011, 71(10): 870-951
- [14] Gemmete JJ, Chaudhary N, Pandey AS, et al. Initial experience with a combined multidetector CT and biplane digital subtraction angiography suite with a single interactive table for the diagnosis and treatment of neurovascular disease [J]. J Neurointerv Surg, 2011, 69(5): 1005-1031
- [15] Moos JM, Ham SW, Han SM, et al. Safety of carbon dioxide digital subtraction angiography[J]. Arch Surg, 2001, 146(12): 1428-1460
- [16] Hansmann J, Morelli JN, Michaely HJ, et al. Nonenhanced ECG-gated quiescent-interval single shot MRA: image quality and stenosis assessment at 3 tesla compared with contrast-enhanced MRA and digital subtraction angiography [J]. J Magn Reson Imaging, 2014, 39(6): 1486-1579
- [17] Lescher S, Samaan T, Berkefeld J. Evaluation of the Pontine Perforators of the Basilar Artery Using Digital Subtraction Angiography in High Resolution and 3D Rotation Technique [J]. AJNR Am J Neuroradiol, 2014, 35(10): 1942-1949
- [18] Wang Xing-hong, Gao Xiao-li, Zhang Hui. The Case of Philips Allura DSA Equipment Maintenance [J]. Chinese Journal of Medical Imaging, 2010, 18(5): 406-407
- [19] Wu Wen-sheng. Toshiba DSA INFINIX - VC instance maintenance [J]. Chinese Journal of Medical Device, 2011, 24(8): 58-59
- [20] Wu Wen-jie, Tian Sheng-quan. Toshiba DSA DFP a 2000 a troubleshooting practice[J]. Chinese Journal of Medical Device, 2013, 26(7): 71-72
- [15] Oneal RM, Rohrich R J, Izenberg PH. Skin expander as an adjunct to reconstruction of the external ear [J]. British Journal of Plastic Surgery, 1984, 17(19): 517-519
- [16] Brent B. Technical advances in ear reconstruction with autogenous rib cartilage grafts: personal experience with 1200 cases [J]. Plastic and Reconstructive Surgery, 1999, 5(2): 319-334
- [17] Jang Chen-yan, Shi Run-jie, Wu Qing-wei, et al. Application of autogenous costal cartilage and Medpor surgical implant in one-stage total auricle reconstruction in 11 cases [J]. Journal of Clinical Rehabilitative Tissue Engineering Research, 2008, 12(1): 97-99
- [18] Braun T, Gratza S, Becker S. Auricular reconstruction with porous polyethylene frameworks: Outcome and patient benefit in 65 children and adults[J]. Plastic Reconstructive Surgery, 2010, 126(2): 1201
- [19] Lorenz L, Ingo P, Christoph T. Retroauricular pull-through island flap for defect closure of auricular scapha defects-a safe one-stage technique[J]. Plastic, Reconstruction, Aesthetic Surgery, 2011, 4(64): 934-936
- [20] Bangun K, Chen PK, Goh RC. Negative pressure manoeuvre in microtia reconstruction with autologous rib cartilage[J]. Journal of Plastic Reconstructive and Aesthetic Surgery Jpras, 2010, 9(7): 1279-1282