



· 论 著 ·

修复口腔癌术后缺损的股前外侧皮瓣供区积液的临床分析

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【摘要】 背景与目的: 股前外侧皮瓣 (anterolateral thigh flap, ALTF) 是口腔癌术后修复最常用的皮瓣。通过回顾分析口腔癌手术病例, 探讨如何最大限度地降低ALTF制备术后供区积液的发生率。**方法:** 选择2018年4月—2018年12月于上海交通大学医学院附属第九人民医院口腔颌面-头颈肿瘤科住院的病例, 共149例, 根据ALTF制备及供区处理方式的不同, 分为3组: 第1组, 大腿阔筋膜上制备ALTF (阔筋膜上ALTF) 37例, 关创时将阔筋膜对位缝合, 术后大腿供区未行加压包扎; 第2组, 大腿阔筋膜下制备ALTF (阔筋膜下ALTF) 66例, 术后因阔筋膜缺损多、张力过大, 不能拉拢缝合, 术后大腿供区配合绷带加压包扎; 第3组, 大腿阔筋膜下制备ALTF 46例, 术后阔筋膜缺损多、张力过大, 不能拉拢缝合, 术后大腿供区未行绷带加压包扎。术后随访1个月, 观察大腿供区积液发生情况。**结果:** 大腿供区术后积液总的发生率为10.07%, 其中第1组积液发生率为0.00%, 第2组积液发生率为10.61%, 第3组积液发生率为17.39%, 各组间比较差异有统计学意义 ($P < 0.05$)。**结论:** 大腿阔筋膜上制备ALTF较阔筋膜下制备ALTF的供区处理方式能够有效降低供区术后积液的发生率。对已制备阔筋膜下ALTF的病例, 对大腿供区进行加压包扎, 可起到降低供区积液发生率的作用。

【关键词】 口腔癌; 股前外侧皮瓣; 大腿供区; 积液

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【Abstract】 **Background and purpose:** Anterolateral thigh flap (ALTF) is the most commonly used flap for oral cancer surgery. This study aimed to retrospectively analyze the information of oral cancer patients and to explore how to minimize the incidence of effusion in the donor site. **Methods:** This study included 149 patients who underwent surgery in Ninth People's Hospital, Shanghai Jiao Tong University School of Medicine from Apr. 2018 to Dec. 2018. According to the different methods of preparing and processing the ALTF, we divided these patients into three groups. In the first group, 37 patients were prepared with ALTF upon the fascia lata, the fascia lata was sutured, and the thigh was not bandaged after surgery. In the second group, 66 patients were prepared with ALTF below the fascia lata. Because all these patients had relatively large tissue defect, the fascia lata could not be sutured

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completely. After surgery, thigh was bandaged in all these patients. In the third group, 46 patients were prepared with ALTF below the fascia lata. The fascia lata was not sutured without pressure bandage. One month after surgery, we followed up the occurrence of effusion in the donor site. **Results:** The overall incidence of postoperative effusion in the thigh donor site was 10.07%. No one in the first group had effusion, and the incidence of effusion in the second group and the third group was 10.61% and 17.39%, respectively. There were statistically significant differences among these three groups ($P < 0.05$). **Conclusion:** The preparation of ALTF upon the fascia lata is less prone to effusion than the preparation of ALFT below the fascia lata. Furthermore, bandaging the donor area of the thigh after surgery can also reduce the incidence of effusion.

[Key words] Oral cancer; Anterolateral thigh flap; Thigh donor area; Effusion

股前外侧皮瓣 (anterolateral thigh flap, ALTF) 相较于前臂皮瓣、背阔肌皮瓣等游离皮瓣在软组织修复重建中具有诸多优势^[1-2]。近年来,它不仅在头颈部软组织缺损重建过程中成为主流皮瓣,在肢体软组织缺损修复中亦成为常用皮瓣^[3-4]。

关于ALTF制备后供区并发症情况的报道,主要集中于刀口开裂、局部组织坏死^[5]、外形、柔韧性^[6]、肌力、步态^[7]以及患者生活质量^[8-10]等。笔者在临床工作中发现,一些ALTF制备术后供区发生积液的情况,虽多可经开放引流1~2周后创口愈合,但仍对患者术后恢复造成一定的影响,本文分析了临床采用的不同制备ALTF术式及术后大腿供区处理方式,探讨如何最大限度地降低ALTF制备后大腿供区积液的发生率。

1 资料和方法

1.1 临床资料

选择2018年4月—2018年12月于上海交通大学医学院附属第九人民医院口腔颌面-头颈肿瘤科住院的病例,共188例,其中颊癌32例,口底癌17例,舌癌58例,牙龈癌14例,口咽癌16例,颌骨恶性肿瘤48例,涎腺恶性肿瘤3例,均行ALTF修复术后缺损,其中排除39例(死亡2例、皮肤张力过大、形成瘻5例、失访32例),纳入149例,其中男性100例,女性49例,年龄8~85岁。

1.2 皮瓣制备方法

制备ALTF位于大腿中1/3的外侧,可先沿髌骨上缘中点与髌前上嵴连线中1/3切开皮肤、皮下脂肪。后可直接切开阔筋膜,在阔筋膜下平面翻起皮瓣(阔筋膜下ALTF);另外,亦可在阔筋膜上平面翻起皮瓣(阔筋膜上ALTF)。向外侧翻瓣寻找在股直肌与股外侧肌之间的间隙(肌

间隔穿支)和股外侧肌内(肌穿支和半肌间隔穿支)穿出的穿支。确定血管穿支后,如为阔筋膜上平面翻瓣者,需在靠近血管穿支处切开阔筋膜(注意留取部分阔筋膜,以保护血管穿支不受损伤),后通过顺行与逆行分离两种方法结合分离穿支,确定穿支发自外侧降支后,根据穿支的位置和数目制备皮瓣,切开皮瓣其余切口,翻起皮瓣及穿支,保留股神经分支,游离外侧降支至足够长度,断蒂后,冲洗止血,对肌肉残端进行缝扎,分层缝合关闭创面,留置负压引流管2根^[11]。

1.3 分组

根据术式及术后处理方式的不同,分为3组:第1组,制取阔筋膜上ALTF,仅取少量阔筋膜保护血管穿支,术毕行阔筋膜拉拢缝合,术后供区未行加压包扎;第2组,制取阔筋膜下ALTF,术中切取与皮瓣大小相当的阔筋膜,术后因阔筋膜缺损多、张力过大,不能拉拢缝合,术后大腿供区行加压包扎(压迫3~4周);第3组,制取阔筋膜ALTF,术中切取与皮瓣大小相当的阔筋膜,术后因阔筋膜缺损多、张力过大,不能拉拢缝合,术后大腿供区未行加压包扎。

1.4 术后积液判定方法

术后1个月左右,患者可有腿部供区坠胀不适,无力感,查体见腿部供区切口对位愈合良好,皮下扪及波动感,切开后引流出大量淡黄色清亮液体。

1.5 统计学处理

统计各组积液发生情况,以及各组在年龄、创伤(主要以是否切取股外侧肌充填组织缺损来衡量)方面的差异。采用SPSS 23.0软件对本次研究数据进行分析。对服从正态或近似服从正态分布的定量资料,使用均数 \pm 标准差的形式

进行描述,使用单因素方差分析对定量资料进行分析;对定性资料使用频数(百分比%)的形式进行描述,使用卡方分析法(包括连续性校正法和Fisher确切概率法)对定性数据进行分析。 $P<0.05$ 为差异有统计学意义。本次研究均为双侧检验。

2 结果

2.1 各组积液情况的分析

统计各组ALFP取瓣后供区积液的发生情况,第1组积液的发生率为0.00%,第2组积液发生率为10.61%,第3组积液发生率为17.39%,总发生率为10.07%。对3组的差异进行统计学分析,差异有统计学意义($P=0.019$,表1)。

2.2 各组在手术创伤、患者年龄方面的统计学分析

选取创伤和年龄两个因素进行统计学分析

(表2),分别比较各组在手术创伤、患者年龄方面的差异。结果显示,3组在手术创伤方面差异无统计学意义($P=0.242$),说明3组在手术创伤方面基本相似,创伤因素并非导致3组积液差异的因素。同样,3组在选择患者年龄方面差异无统计学意义($P=0.384$),年龄也不是导致3组积液差异的因素(表2)。

表1 3组术后积液发生情况的统计学分析

Tab. 1 Statistical analysis of postoperative effusion in the three groups

Group	Effusion		χ^2	P value
	Negative	Positive		
	[n(%)]			
Group 1	37 (100.00)	0 (0.00)		
Group 2	59 (89.39)	7 (10.61)	7.659	0.019
Group 3	38 (82.61)	8 (17.39)		

表2 各组在手术创伤、患者年龄方面的统计学分析

Tab. 2 Statistical analysis of surgical trauma and age of patients in each group

Factors	Group			χ^2	P value
	Group 1	Group 2	Group 3		
	[n(%)]				
Trauma (whether to cut the lateral thigh muscle)					
No	22 (59.50)	42 (63.60)	35 (76.10)	2.961	0.242
Yes	15 (40.50)	24 (36.40)	11 (23.90)		
Age/year					
<50	13 (35.10)	20 (30.30)	10 (21.70)	1.913	0.384
≥ 50	24 (64.90)	46 (69.70)	36 (78.30)		

3 讨论

ALTF组织量既充足又灵活,既可通过修薄缩减厚度,又可通过携带肌肉满足大型缺损的组织量需求,也可根据穿支的数量,制备一带双岛甚至一带多岛皮瓣,修复复杂性缺损^[12-14],目前在口腔颌面头颈外科、整形外科已成为常用的皮瓣之一^[1, 15]。ALTF相关的手术方式比较成熟,如何最大限度地减少并发症成为重点。

本研究结果显示,在149例制取ALTF的病例中,大腿供区积液总的发生率达10.07%,发生率较高,虽经外科处理后都可愈合,但仍对患者的

术后恢复造成一定的影响,增加患者的心理负担和痛苦,目前外科手术术后积液的来源主要考虑与手术创伤引起组织液及血液渗出,以及毛细淋巴管破裂引起淋巴渗液有关^[16],常见的外科有效预防方法为加压包扎^[17]。在表1中,第1组制备阔筋膜上ALTF术式,大腿供区无积液发生;第2组,制备阔筋膜下ALTF,术后供区加压包扎处理,大腿供区积液发生率为10.61%;第3组制备阔筋膜下ALTF,术后供区未行加压包扎,供区积液发生率为17.39%。经显著性检验,3组之间的差异有统计学意义($P<0.05$)。可见缝合阔筋膜后,大腿供区术后积液的发生率明显降低,而如果未能缝合阔筋膜,对供区进行加压包扎,也

可起到降低供区积液发生率的作用,考虑可能存在的原因是:阔筋膜具有一定的张力,相较于绷带提供的束缚力能够提供更加持久、适宜的压迫力量,可有效消灭死腔,从而减少大腿供区积液的发生率。而制取阔筋膜下ALTF,因阔筋膜缺损较多,不能术中同期缝合,为减少供区积液的发生,第2组采用术后加压包扎处理,相较于第3组,也起到了有效降低积液发生的作用,此结果与外科积液的常见处理方式相合,考虑原因可能与大腿部解剖结构有关,大腿软组织多、肌肉活动量大,使用绷带加压包扎后容易出现绷带松动,从而导致压迫效果不佳。

制备阔筋膜上ALTF的术式,是否是本研究中第1组积液发生率低的主因,还需要多方面的印证。本文另纳入了年龄和创伤两个因素,考虑到高龄患者抵抗力低,术后恢复慢,可能会导致供区积液发生率增加,本研究将每组病例分为 ≥ 50 岁和小于50岁组,比较其差异性,从表2中可看出,3组中患者年龄组成接近,差异无统计学意义($P>0.05$),说明年龄并不是造成3组间积液差异的因素。对于创伤因素,主要考虑的是两个方面:一是皮瓣面积大小,二是切取股外侧肌的大小。本研究中的病例所取皮瓣宽度约为6 cm,长度约是宽度的3倍,均能一期拉拢缝合,各病例皮瓣面积大小均匀,但为充填深部组织缺损,部分患者会被切取股外侧肌,从而造成个体间创伤的差异,从表2可以看出,本研究中3组组间比较,切取股外侧肌情况差异无统计学意义($P>0.05$),3组供区手术创伤情况基本一致,说明供区创伤情况也不是造成3组间积液差异的因素。因此,从目前可统计的最可能相关因素分析来看,阔筋膜上翻瓣制备ALTF的术式是导致第1组供区积液发生率最低的主要原因。

阔筋膜下ALTF为传统的制取方式,报道的并发症有神经、肌肉损伤以及关节活动障碍等^[18-19],亦有报道表明深筋膜的损伤可能导致持续的下肢无力,并建议对ALTF进行筋膜上剥离^[20-21]。在后续的研究中,多数结果表明筋膜上ALTF与阔筋膜下ALTF相比较,在手术时长、皮瓣并发症(皮瓣坏死等)及供区并发症(感

染、切口裂开、肌力等)方面,两种术式无显著差异^[22-23],但我们认为,阔筋膜上ALTF的术式能提供更薄、轮廓更好的皮瓣,尤其是对于口腔颌面部缺损重建更加有利,且可以减少二次供区修整的可能^[24]。亦有研究表明,制备阔筋膜上ALTF的术式可降低供体大腿感觉障碍^[25],这也得益于显微外科的长足发展,需术中对神经进行解剖保护。本研究结果显示,制备阔筋膜上ALTF较制备阔筋膜下ALTF的术式,能够有效地降低患者术后大腿供区积液的发生率,结合既往观点,制备阔筋膜上ALTF要优于阔筋膜下ALTF,但是此术式对术者的熟练度有一定的要求,需要术者仔细解剖。

在临床工作中,存在需要制取超大ALTF的情况,而血管干粗细与切取皮瓣之间的关系表明,血管干口径为1.5~2.5 mm时,皮瓣切取长轴总长度在18 cm以下才是安全的^[26-27]。Sharabi等^[28]通过统计学分析得出单穿支超薄皮瓣的最大面积应小于150 cm²。因此在制备超大皮瓣时为同时保护多个穿支,可能导致不能顺利制备阔筋膜上ALTF,如出现这种情况,在条件允许的情况下,可考虑制备Kiss皮瓣^[29],即制备多个阔筋膜上ALTF,或可能达到保留阔筋膜的目的。

综上所述,大腿阔筋膜上制备ALTF较阔筋膜下制备ALTF的处理方式能够有效地降低供区术后积液的发生率。对于已制备阔筋膜下ALTF的病例,对大腿供区行加压包扎,亦可起到降低供区积液发生率的作用。

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