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耳部钢筋复杂穿刺伤救治 1 例并文献复习

索安奇[1],孙聚兴[2],牛红燕[2],周艳秋[3],牛鹏昊[1],毛文伟[1],李晓瑜[2],杨欣欣[2]
1. 济宁医学院 临床医学院,山东 济宁 272007
2. 济宁医学院附属医院 耳鼻咽喉头颈外科,山东 济宁 272007
3. 济宁医学院附属医院 麻醉科,山东 济宁 272007

摘要:目的 探讨复杂耳部利器伤的急症处理及后续并发症防治。**方法** 追踪 1 例耳部利器伤患者的治疗及预后。**结果** 患者听力部分改善,面瘫情况较前有明显改善。**结论** 耳周围有诸多重要血管及神经穿行,严重耳部利器伤不仅会导致严重的并发症,更有甚者危及生命。利器导致的外耳道损伤无可避免,同时合并的多发性损伤大大加剧了手术难度、术后相关护理难度及术后并发症防治处理难度。论文对此病例进行讨论,结合患者情况采用个性化治疗方案,改善患者预后及生活质量。

关键词:利器穿刺伤;颞骨骨折;外耳道狭窄;面瘫;听力障碍
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Treatment of complex steel-sharps-based ear puncture wound: a case report and literature review

SUO Anqi[1], SUN Juxing[2], NIU Hongyan[2], ZHOU Yanqiu[3], NIU Penghao[1], MAO Wenwei[1], LI Xiaoyu[2], YANG Xinxin[2]
1. School of clinical medical, Jining Medical University, Jining 272007, Shangdong, China
2. Department of Otorhinolaryngology & Head and Neck Surgery, Affiliated Hospital of Jining Medical University, Jining 272007, Shangdong, China
3. Anesthesiology, Affiliated Hospital of Jining Medical University, Jining 272007, Shangdong, China

Abstract: Objective To investigate the emergency management of complex sharps-based ear injuries and the management of complications. **Methods** This report describes the treatment and prognosis of a patient with an ear sharpshooter injury. **Results** After treatment, the patient's hearing partially improved and the facial palsy improved significantly. **Conclusion** There are many important blood vessels and nerves in the vicinity of the ear. Therefore, serious sharps injuries to the ear can lead to not only serious complications but also life-threatening injuries. Injuries to the external auditory canal by sharp instruments are inevitable, and multiple injuries greatly increase the difficulty of the surgical intervention, related postoperative care, and management of postoperative complications. This case report describes a personalized treatment plan that was used to improve the patient's prognosis and quality of life.
Key words: Sharp tool puncture; Temporal bone fracture; External auditory canal stenosis; Facial paralysis; Dysaudia

耳外伤复杂严峻,涉及耳鼻咽喉科学、口腔颌面外科、神经内外科学等众多领域,需要多学科参与并处理好抢救生命与及时处理耳科并发症之间的关系[1]。对于一些并发症的诊疗和认知仍存在不足,望本例予以我们更多启示。早期发现、诊断和治疗耳科并发症,避免漏诊、误诊及遗留永久的功能损伤,以期取得最佳生活质量。

1 资料与方法

1.1 一般资料

患者男,48 岁,既往体健,2021 年 6 月 24 日于工地不慎被高空坠落的钢筋扎入右耳耳前,20 min 后来院,脉搏 89 次/min,呼吸 22 次/min,血压 125/89 mmHg(1 mmHg = 0.133 kPa)。患者痛苦面容,神志模糊,精神差,静止状态下面部肌肉不对称,右侧鼻唇沟较浅,存在 House-Brackmann Ⅳ级面瘫情况。右耳前上可见钢筋扎入,外端残余约 1 m,耳部部分撕裂,深部不明确(见图 1)。急行颌面部、颅脑、胸部、颈部 CT,结果提示右侧颞部-颌面部金属致密影;右侧颞部-颌面部-右侧咽旁间隙软组织肿胀、积气,口咽腔狭窄;右侧颧弓、颞骨、

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通信作者:杨欣欣。E-mail:yangjnmc@163.com

下颌头、翼突内外侧板骨折并颞颌关节脱位。初步诊断“多发外伤、外耳道异物(耳前)、右颞下颌关节前脱位(颞颌关节脱位)、右颧弓骨折、右颞骨骨折、右下颌骨骨折(下颌头)、右翼突内外侧板骨折”,行绿色通道入手术室进行手术治疗。

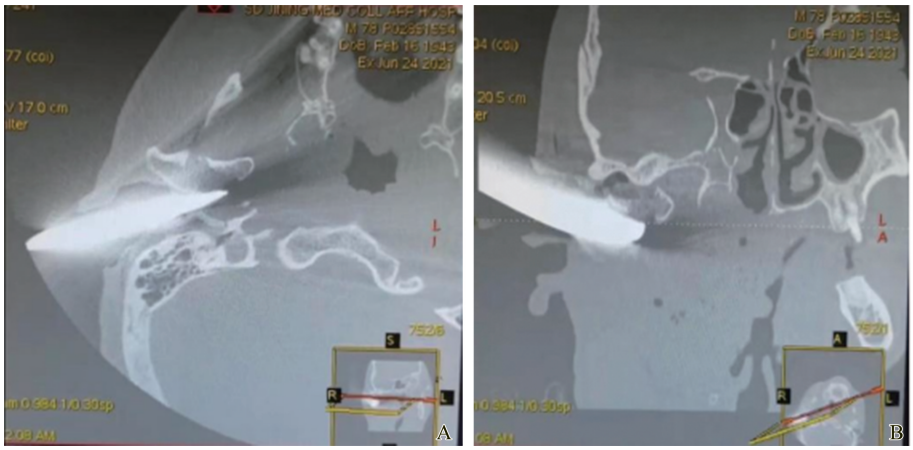

图 1 外耳道异物
A: 2021 年 6 月 24 日右侧颞部-颌面部管状金属致密影,周围散在放射伪影(横断位);B: 右侧颞部-颌面部-右侧咽旁间隙软组织肿胀、积气,右侧颧弓、颞骨、下颌头、翼突内外侧板骨质连续性中断,颞颌关节对位欠佳(冠状位)

Figure 1 Foreign body in the external auditory canal
A: Right temporal-maxillofacial tubular metallic dense shadow with scattered surrounding radiographic artefacts on 24 June 2021(transverse position); B: Right temporal-maxillofacial-right parapharyngeal space with soft tissue swelling, pneumatosis, disruption of bony continuity of the right zygomatic arch, temporal bone, mandibular head, and medial and lateral plates of the pterygoid process, and poor alignment of the temporomandibular joints (coronal position)

1.2 治疗与预后

钢筋自右耳耳郭前上斜向下扎入,沿伤口扩大行耳后切口,完整取出钢筋,探查见腮腺、颞颌关节表面组织及外耳道壁破裂损伤,清创腮腺破损时未见面神经分支裸露。修剪严重挫伤、坏死皮肤,保留外耳道后壁、下壁各 1/3, 颈外动脉分支破裂出血,缝扎破裂颈外动脉分支,缝合颞颌关节表面组织、腮腺及破损的外耳道。术区下负压引流,分层缝合,耳道内填塞碘仿纱条,加压包扎。术后 2 d,待患者情况稍好转,我们根据 HB 分级标准评估患者面瘫情况,患者处于Ⅴ级面瘫重度面肌功能不良。2021 年 6 月 28 日复查 MR 结果提示:右侧耳部及右侧颌面部术后改变;双侧乳突炎症。CT 提示:右侧颧弓、颞骨、下颌头、翼突内外侧板骨折并颞颌关节脱位。

患者于 2021 年 8 月 15 日因右侧周围性面瘫,听力下降再次入院。双侧面神经肌电图结果提示右侧面神经受损。纯音测听结果:右耳气导平均听阈 85 dB,骨导平均听阈 38 dB。听性脑干反应阈值为 90 dBnHL,患者重度听力障碍。CT 结果提示右外耳道软组织密度影并外耳道狭窄、闭塞。

遂于 2021 年 8 月 17 日行外耳道成形术+鼓室探查术+改良乳突根治术+I 型鼓室成形术+面神经探查。手术探查见面神经骨管完好,听骨链完整、活动佳。切除外耳道瘢痕,从耳后取带蒂皮瓣约 1.5 cm×3 cm置于外耳道,行外耳道成形术,将筋膜内置修补鼓膜。2021 年 9 月 21 日复查耳内镜未见明显异常。复查听力学资料,纯音测听结果:右耳气导平均听阈 55 dB,骨导平均听阈 37 dB。听性脑干反应阈值为 50 dBnHL。检查见患者右侧眼睑闭合不全,不能抬眉,口部运动不对称,根据 HB 分级标准,患者面瘫情况恢复到 Ⅳ 级。

患者于 2022 年 10 月 22 日因耳部疼痛,伴流脓 1 d 再次入院治疗。CT 提示右侧外耳道及中耳乳突炎症,右侧下颌骨内侧软组织肿胀。予以抗感染治疗后好转并给与扩大外耳道口,右耳外耳道填塞碘仿纱条 1 周,外耳道口瘢痕处环形注射曲安奈德,继续营养神经药物与康复治疗,定期门诊复查。患者外伤后 1 年半,于我院再次复查,视频耳内镜检查见右耳外耳道通畅,鼓膜完整,自诉听力较前稍改善(见图 2)。患者术后 1 年一直不间断就诊于康复科行针灸治疗,面瘫情况有很大改善,检查其面部功能见静态下双侧基本对称,右侧面部额纹较浅,轻微用力可闭眼,口角运动时轻微不对称。患者面瘫情况恢复到 House-Brackmann Ⅱ级。

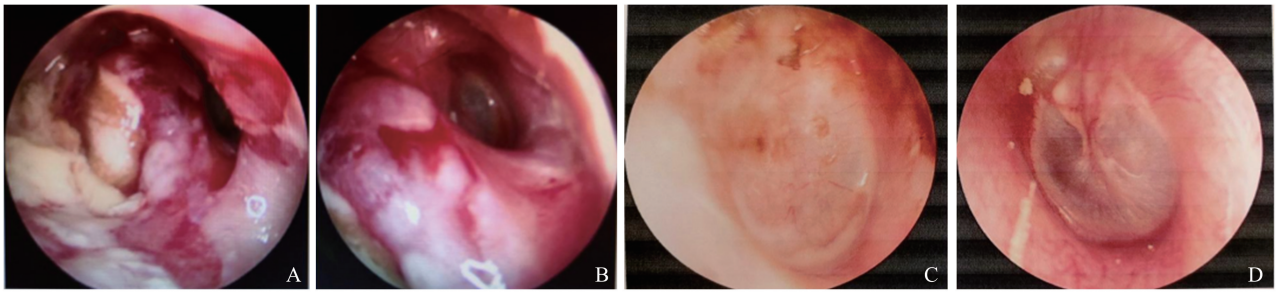

图 2 耳内镜复查情况
A:右耳术后耳内镜;B:右耳外耳道及鼓膜充血;C:右耳乳突术后 1 年半;D:左耳外耳道通畅,鼓膜完整

Figure 2 Review of the otoscope
A: Postoperative otoscopy of the right ear; B: Congestion of the external auditory canal and tympanic membrane of the right ear; C: One and a half years after mastoidectomy of the right ear; D: The external auditory canal of the left ear is clear and the tympanic membrane is intact

2 讨 论

利器所导致的耳外伤是耳鼻喉科的疑难急诊病例。外耳道损伤常伴发颞骨骨折,累及中耳乳突、内耳、颅中窝等结构,可造成听力下降、面瘫、脑脊液耳漏等[2]。本例患者由利器导致的多发颅骨骨折,对中耳和内耳造成严重损伤,导致周围性面瘫、听力障碍等并发症,术后又面临外耳道狭窄、感染等一系列问题。

获得性外耳道狭窄属于外耳道少见疾病,其中外伤导致的外耳道狭窄相对常见,可由颞骨骨折引起,并导致听力损失[3-4]。外耳道狭窄可继发胆脂瘤及感染进而破坏毗邻结构[5-6]。手术是治疗外耳道狭窄的主要方式,切除瘢痕组织,扩大狭窄外耳道,防止外耳道胆脂瘤形成,有效提高听力[7]。本例患者外耳道狭窄与皮肤缺失瘢痕、感染瘢痕相关[8],CT 结果提示右外耳道软组织密度影,右耳狭窄、闭塞。我们予以患者外耳道成形术,阻止其他并发症进一步的发生。术后复查纯音测听气导听阈在 1 000~4 000 Hz 均值提高 43 dB,部分听力改善得益于术中及时清理病灶,解决外耳道狭窄问题。

面神经最常在头部创伤时受伤,通常是与颞骨骨折相关的创伤。面神经麻痹在颞骨骨折中的发生率为 5%~10%[9-12],横向骨折的面神经损伤发生率高于纵向骨折[13-14],它可以立即发生或延迟发生,其重要的预后因素是面神经麻痹的严重程度和发病时间。即发性面神经麻痹通常在创伤后立即发生,可能是由于骨折碎片导致神经传导中断[15-16]。迟发性面神经麻痹在创伤后 1~10 d 内均可出现,可能与神经水肿、血肿压迫或骨折相邻的纤维组织的神经卡压相关[17-18]。由于本例患者受伤时的痛苦面容外加急诊以救治生命降低损失为原则,我们无法对患者进行详细检查,仅发现静态下患者右侧鼻唇沟比健侧要浅,患者存在 House-Brackmann Ⅳ级面瘫情况。一期手术我们以取出异物,抢救生命为重心。二期手术我们主要处理患者的并发症问题。在外伤后的 1~3 个月间进行面神经探查,术中经探查面神经骨管完好,术后复查的影像学资料也支持这一论点(见图 3)。本例患者面神经麻痹可能与压迫机制有关,即在危险的神经节段形成水肿。我们首选保守性治疗,效果令人满意。后期复查见患者由面瘫 House-Brackmann Ⅴ级恢复到 House-Brackmann Ⅱ级。

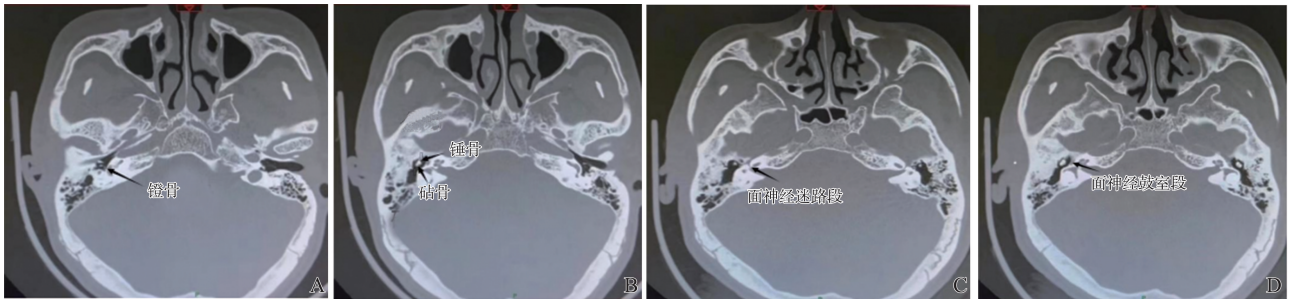

图 3 听骨链与面神经
A: 镫骨完整;B:锤骨、砧骨完整;C: 面神经迷路段骨管完整;D:面神经鼓室段骨管完整

Figure 3 Auditory ossicular chain and facial nerve
A: Complete Stapes; B: Complete hammer and anvil bones; C: The bony canal of the labyrinthine segment of the facial nerve is intact; D:The bony canal of the tympanic section of the facial nerve is intact

1959 年 Mchangh 提出颞骨骨折分为纵行骨折、横行骨折和混合型骨折[19-20]。本例患者颞骨骨折属于横向骨折,横向骨折常常侵犯内囊,通常会导致严重的感音神经性听力损失(见图 4)。颞骨横向骨折的听力损失的理论机制包括:①听神经可能被撕脱或直接损伤;②耳囊的创伤;③血管痉挛、血栓形成或出血可能导致耳聋;④颅骨碎片的轻微移位和后坐力导致圆窗或椭圆窗的破坏;⑤骨折线可能穿过前庭水渠导致内淋巴水肿[21]。对感音神经性耳聋的有效治疗,建议使用助听器进行康复治疗,如有必要可植入人工耳蜗。

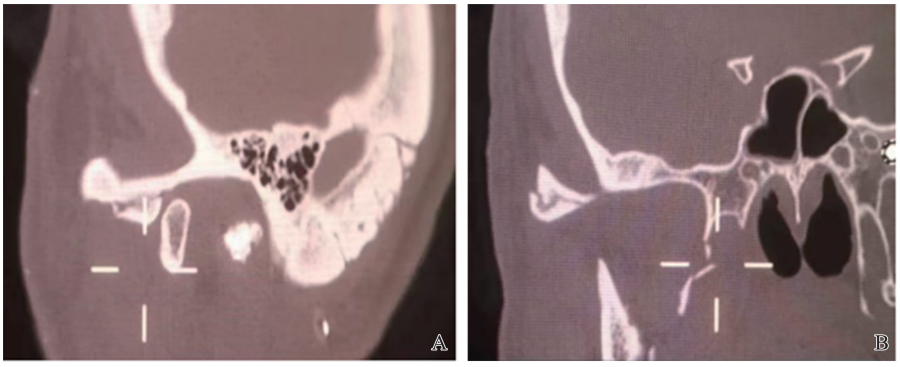

图 4 颞骨横行骨折
A:横行骨折:右侧颞骨骨质连续性中断,部分断端分离(冠状位);B:骨折片移位(矢状位)

Figure 4 Transverse fracture of the temporal bone
A: Transverse fracture: interruption of bony continuity of the right temporal bone with partial separation of the broken ends(Coronal); B: Displaced fracture fragments(sagittal position)

外耳为头部的显露部分,易遭受各种外伤。耳部的外伤又常伴发面部或颅脑外伤。接诊任何外伤病人首先要注意其生命体征是否正常,是否合并其他脏器,如脑、腮腺损伤,是否合并面瘫、脑脊液耳鼻漏等并发症[22-23]。高分辨率颞骨 CT 是检测面神经管水平上的骨折线和评估颞骨内的相关病变的最佳方法。MR 是诊断神经损伤的关键。对于本例患者的病情,我们进行了 1 年余的追踪随访,记录了外伤患者后期病情变化的过程,仍存在很多不足。利器导致的复杂耳外伤我们无法一次性将其完美处理,其后期的并发症是耳鼻喉医生面临的第二次挑战,如何早期干预正确处理才能将对患者的身心损害程度降到最低。此案例中的两大并发症,无论是面瘫还是听力问题,都极大影响患者的生活质量,再加上外伤对患者造成的心理创伤,无不警示临床的每一个决策。

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