

doi: 10.13241/j.cnki.pmb.2019.15.017

中耳术后并发耳廓软骨膜炎致耳廓畸形——1 例病例报告及文献回顾 *

石高凯¹ 洪流² 温立婷³ 张昌明³ 韩宇^{3Δ} 查定军^{3Δ}

(1 中国人民解放军空军军医大学基础医学院 陕西 西安 710032; 2 中国人民解放军空军军医大学西京消化病医院 陕西 西安 710032;

3 中国人民解放军空军军医大学西京医院耳鼻喉科 陕西 西安 710032)

摘要 目的:通过报道 1 例中耳术后并发耳廓软骨膜炎致耳廓畸形患者的病历资料,以加强临床医师对该疾病的认识与防范。**方法:**对本例患者的病历资料进行回顾性阐述,结合该患者的临床特点揭示中耳术后并发耳廓软骨膜炎的发生发展过程,并通过文献回顾阐述该疾病的发病原因、病原学特点及治疗方法。**结果:**耳廓软骨膜炎是耳科手术术后较为棘手但相对少见的并发症,最为常见铜绿假单胞杆菌感染所致。治疗方法视患者病情而定,包括抗菌药物应用、脓肿切开引流、病变软骨切除术。对于合并糖尿病的老年患者中耳术后更易引发耳廓软骨膜炎,且疗程更长、预后更差。**结论:**中耳术后并发耳廓软骨膜炎临床需警惕,对合并糖尿病的老年患者应多加防范;早诊断,早治疗,避免增加患者痛苦、加重其经济负担,并与患者做好充分沟通,避免医疗纠纷的发生。

关键词:耳廓软骨膜炎;中耳炎;并发症

中图分类号:R764.21 **文献标识码:**A **文章编号:**1673-6273(2019)15-2880-04

Auricular Perichondritis induced Malformation Secondary to Middle Ear Surgeries: a Case Report and Literature Review*

SHI Gao-kai¹, HONG Liu², WEN Li-ting³, ZHANG Chang-ming³, HAN Yu^{3Δ}, ZHA Ding-jun^{3Δ}

(1 College of Basic Medicine, Air Force Medical University, Xi'an, Shaanxi, 710032, China;

2 Xijing Hospital of Digestive Diseases, Air Force Medical University, Xi'an, Shaanxi, 710032, China;

3 Department of Otolaryngology, Xijing Hospital, Air Force Medical University, Xi'an, Shaanxi, 710032, China)

ABSTRACT Objective: To improve the doctor's medical knowledge for auricular perichondritis through reporting a patient who was admitted for auricular perichondritis after middle ear operation. **Methods:** The clinical characteristics of the case were stated retrospectively. The aetiology, etiology and treatment methods of auricular perichondritis were reviewed. **Results:** Auricular perichondritis is a relative rare complication after otological surgery, and is usually caused by *Pseudomonas aeruginosa* infection. Treatment methods depend on the patient's condition, included antibiotic drugs, abscess drainage and cartilage resection. For the older patient with diabetes mellitus, auricular perichondritis is more likely to occur with longer course and worse prognosis. **Conclusions:** Auricular perichondritis after middle ear surgery should be guard against, and more precautions should be taken for the older patient with diabetes mellitus. Early diagnosis and treatments, decreasing patient's painful and economic burden, full communication with patients is needed to avoid the risk of medical disputes.

Key words: Perichondritis; Otitis media; Postoperative complications

Chinese Library Classification(CLC): R764.21 **Document code:** A

Article ID: 1673-6273(2019)15-2880-04

前言

耳廓软骨膜炎多继发于耳廓外伤、烧伤、耳廓血肿或自身免疫性疾病等^[1,2],也是中耳手术术后较为棘手而相对少见的并发症^[3-5],临床表现多为耳廓疼痛、增厚,常伴脓肿形成^[6,7]。耳部术后耳廓软骨膜炎导致患者住院时间延长,增加患者痛苦、加重其经济负担,同时使医生面临着因多次手术、患者耳廓畸形而引发的医患纠纷等风险。选择恰当的治疗时机和正确的治疗

方法将避免或减少耳廓软骨膜炎的发展与恶化^[4,8]。现将 1 例中耳胆脂瘤术后并发耳廓软骨膜炎致耳廓畸形的病例报道如下。

1 临床资料

患者,女性,75 岁,因“左耳流脓伴耳痛 1 月”就诊。50 年前患者曾因“左耳间断流脓伴听力下降”于外院行手术治疗(具体术式不详),术后恢复良好;10 年前患者再次出现左耳流脓,给予抗炎治疗可好转;近 1 月左耳持续流脓伴耳痛,给予抗

* 基金项目:国家自然科学基金项目(81870719);陕西省基金社会发展领域(2018SF-240)

作者简介:石高凯(1996-),本科,研究方向:基础医学,E-mail: 987889903@qq.com

Δ 通讯作者:韩宇(1980-),博士,主治医师,主要从事耳科的诊疗工作,E-mail: hlhyhj@126.com;

查定军(1974-),博士,副教授,主要从事耳科及侧颅底诊疗工作,E-mail: zhadjun@fmmu.edu.cn

(收稿日期:2019-03-01 接受日期:2019-03-23)

炎治疗后效果不明显。患者既往糖尿病及高血压病史 20 余年, 血压控制可, 血糖控制不佳、空腹血糖波动在 7.3~12.8 mmol/L, 个人史及家族史无特殊。专科查体: 双侧耳廓外观无畸形, 外耳道无狭窄, 左外耳道肿胀, 肉芽形成并可见脓性分泌物, 鼓膜无法窥及; 右侧鼓膜完整, 标志物清楚(Fig. 1A, Fig. 1B)。512 音叉检查: 林纳试验: 左(-)右(+); 韦伯试验: 偏左。辅助检查: 纯音测听: 左耳传导性耳聋(平均骨导听阈 15 dB HL, 气导听阈 63.75 dB HL), 右耳高频听力下降(平均气导听阈 22.5 dB HL)(Fig. 1C)。颞骨薄层 CT 及 MRI 提示: 左外耳道及中耳内软组织影填充(Fig. 1D)。完善术前相关检查后, 为患者实施左耳开放式鼓室

成形、耳甲腔扩大成形术。术后给予抗炎治疗 1 周后患者好转出院。但手术后 2 周, 患者出现左耳耳廓肿胀, 剧烈疼痛、红肿, 皮温较对侧略高, 行外耳道分泌物培养未查见细菌及真菌生长, 给予抗炎、耳部理疗等保守治疗无明显好转(Fig. 2)。最终行耳廓病变软骨清创术, 术中切除包括病变软骨及周边 1 mm 范围的正常软骨(Fig. 3A, Fig. 3B), 并反复冲洗脓腔, 置双向引流管, 术后每日消毒液冲洗脓腔直至脓腔闭合。患者术后 4 周术腔创面恢复良好(Fig. 3C), 复查纯音测听提示左耳听力较术前无明显下降, 但耳廓遗留菜花样畸形(Fig. 3D)。

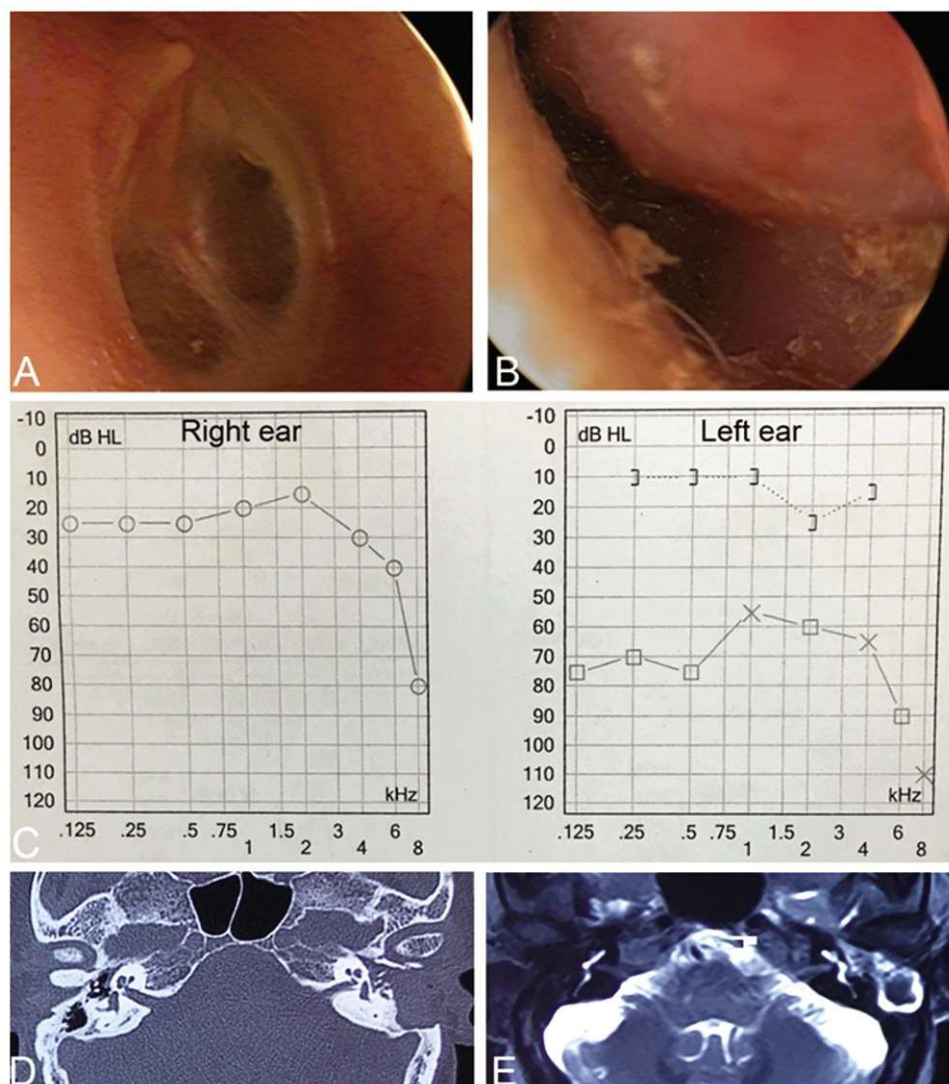


图 1 患者术前情况

Fig.1 The patient's preoperative status

注: A. 右耳正常鼓膜形态; B. 左耳外耳道肉芽形成; C. 纯音测听示: 左耳传导性耳聋, 右耳高频感音神经性听力下降; D. 颞骨轴位薄层 CT 示左耳术后改变, 术腔软组织影填充; E. 颞骨 MRI T2 像示左耳乳突腔软组织影、周边环形强化

Note: A. Tympanic membrane of right ear; B. Granulogenesis in external auditory canal of left ear; C. Pure tone audiometry showed conductive hearing loss of left ear and sensorineural hearing loss of right ear; D. Temporal bone CT showed soft tissues in the left ear; E. Temporal bone MRI T2 imaging showed soft tissues with ring enhancement in the left ear

2 讨论

有学者认为“耳廓软骨膜炎”是一个错误的诊断术语, 因

炎症感染不仅涉及软骨膜, 还侵犯了耳廓软骨^[9]。由于耳廓软骨没有血液供应而仅靠周围软骨膜的营养渗透^[10,11], 因此当软骨膜发生炎症感染时, 耳廓软骨也会继发感染而发生坏死、液化,

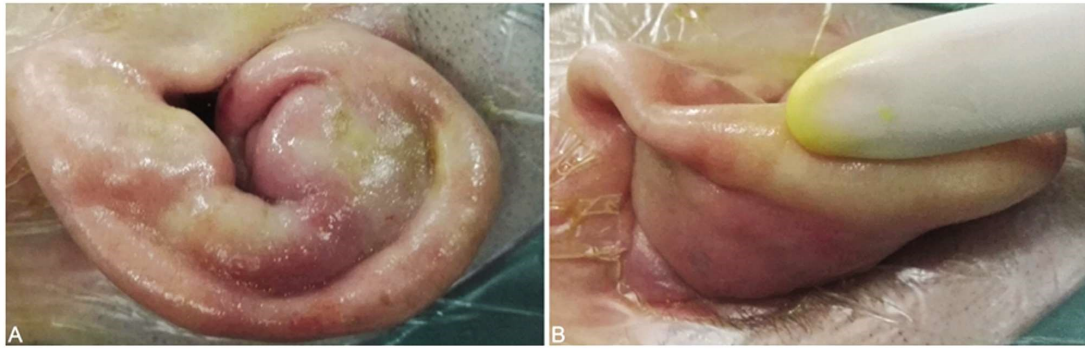


图2 耳廓软骨膜炎的耳廓表现

Fig.2 The patient's auricular with perichondritis

注:A.左耳耳廓肿胀明显、脓肿形成;B.左耳后肿胀、耳后沟消失

Note: A. Auricle swelling and abscess formation of left ear; B. Disappearance of posterior sulcus



图3 耳廓病变软骨清创术中、术后情况

Fig.3 Intraoperative and postoperative conditions of the wide cartilage excision

注:A.术中见坏死软骨;B.坏死软骨清除后术腔表现;C.术后左耳术腔上皮化良好;D.左耳廓畸形表现

Note: A. Intraoperative necrotic cartilage; B. postoperative manifestation of necrotic cartilage excision; C. Cavity with epithelialization; D. Auricular deformity after operation

坏死的软骨又将作为细菌培养基进一步加重炎症反应^[12,13]。由于软骨很难再生,坏死的软骨细胞最终将被致密的纤维组织和瘢痕所代替而导致耳廓畸形^[14,15]。因此,耳廓软骨膜炎病情发展较为迅速,如不及时治疗或治疗方法不当,可影响耳廓正常形态及生理功能^[16,17]。耳部术后发生耳廓软骨膜炎的常见原因包括手术过程中消毒不彻底;行耳甲腔成形时,耳廓软骨暴露、未

被正常皮肤完全覆盖;术后术腔包扎加压过紧;术后术腔感染等^[4,18]。

从病原学角度分析,据文献报道,在耳部术后或烧伤后发生耳廓软骨膜炎的75-95%的患者中,可在脓性分泌物培养出铜绿假单胞杆菌,其次金黄色葡萄球菌的检出率约占50%左右^[19,20]。Tseng等^[21]检测了8例耳廓软骨膜炎患者的分泌物,发

现 4 例患者为真菌感染,推测真菌更易侵犯裸露的软骨并可导致严重的炎症反应。因此,对耳廓软骨膜炎患者进行分泌物培养和药敏检测,选用恰当的抗菌药物是十分必要的。

耳廓软骨膜炎的治疗包括抗菌药物应用、脓肿切开引流或病变软骨切除术^[4,8,22]。针对耳廓软骨膜炎常规使用抗菌药物,首选针对铜绿假单胞菌和金黄色葡萄球菌的抗生素^[23];待分泌物培养及药敏结果确定后,应用合理的抗菌药物。若病变脓肿形成需尽早切开引流,反复冲洗脓腔;若中耳术后发生感染,需尽早清理中耳术腔填塞物、冲洗术腔,控制原发灶的感染^[24]。此外,大多医师普遍认为彻底切除病变软骨、软骨膜及受累皮肤是根治耳廓软骨膜炎的主要方法。但由于术中很难区别健康软骨和病变软骨的界限,耳廓软骨的切除范围往往令医生很难确定,若耳廓软骨切除过于广泛,由于丧失了耳廓的支架作用,术后极易引发耳廓畸形^[21,25]。然而,若耳廓软骨切除过于局限,病变软骨未切除彻底,耳廓软骨膜炎则难以得到控制,往往需反复手术治疗,同样增加了患者术后耳廓畸形的风险。因此,为了耳廓软骨膜炎的治愈及预防复发,Stroud^[26]强调在切除坏死软骨的同时,周边正常软骨外 1 mm 也需一并切除。但耳轮软骨的保留对于降低耳廓畸形具有一定价值,术中需根据病变范围予以考虑保留。

此外,糖尿病、老年患者耳部术后相对更易并发耳廓软骨膜炎,血糖增高不利于术后伤口愈合,更易导致术腔感染与扩散^[27-30]。围手术期血糖的控制情况将直接影响患者术后康复及术后并发症的发生几率。合并糖尿病的耳廓软骨膜炎患者治疗将更加棘手,其疗程更长,预后更差,需与患者做好充分沟通。

综上所述,耳部术后并发耳廓软骨膜炎需警惕,尽量做到早诊断、早治疗,病变初期以使用对铜绿假单胞菌和金黄色葡萄球菌敏感的抗生素为主;脓肿形成后需尽早切开引流;若耳廓软骨受累,需彻底行病变软骨切除术,并保证一定的安全软骨范围。特别需要警惕合并糖尿病的老年患者,围手术期严密控制血糖,避免耳廓软骨膜炎的发生。

参 考 文 献(References)

[1] Prasad KC, Karthik S, Prasad SC. A comprehensive study on lesions of the pinna[J]. *Am J Otolaryngol*, 2005, 26(1): 1-6

[2] Mohammad Reza Mahmoudian sani, Ameneh Mehri Ghahfarrokhi, Mohammad Saeid Jami. MicroRNAs: effective elements in ear-related diseases and hearing loss [J]. *European Archives of Oto-Rhino-Laryngology*, 2017, 274(6): 2373-2380

[3] Kaplan AL, Cook JL. The incidences of chondritis and perichondritis associated with the surgical manipulation of auricular cartilage [J]. *Dermatol Surg*, 2004, 30(1): 58-62

[4] 郑铨艺, 柯朝阳, 龚桃根, 等. 中耳手术后并发化脓性耳廓软骨膜炎的治疗[J]. *中华耳科学杂志*, 2017, 15(03): 317-320

[5] Bois E, Halimi C. An Atypical Perichondritis [J]. *Otolaryngol Head Neck Surg*, 2018, 158(5): 961-962

[6] 李海霞, 张靛冉, 王书敬. 复发性多软骨炎 2 例误诊分析[J]. *临床耳鼻咽喉头颈外科杂志*, 2018, 32(19): 1509-1510

[7] 张慧敏, 牟珊, 刘志庆, 等. 耳廓化脓性软骨膜炎 1 例诊治并文献分析[J]. *世界最新医学信息文摘*, 2018, 18(98): 282-283

[8] Mitchell S, Ditta K, Minhas S, et al. Pinna abscesses: can we manage them better? A case series and review of the literature [J]. *European*

Archives of Oto-Rhino-Laryngology, 2015, 272(11): 3163-3167

[9] Stroud MH. Treatment of suppurative perichondritis[J]. *Laryngoscope*, 1978, 88(1 Pt 1): 176-178

[10] Zilinsky I, Cotofana S, Hammer N, et al. The arterial blood supply of the helical rim and the earlobe-based advancement flap (ELBAF): A new strategy for reconstructions of helical rim defects [J]. *Journal of Plastic, Reconstructive & Aesthetic Surgery*, 2015, 68(1): 56-62

[11] Zilinsky I, Erdmann D, Weissman O, et al. Reevaluation of the arterial blood supply of the auricle[J]. *J Anat*. 2017, 230(2): 315-324

[12] Bellaud G, Canestri A, Gallah S, et al. Bacterial chondritis complications following ear piercing[J]. *Med Mal Infect*, 2017, 47(1): 26-31

[13] Sosin M, Weissler JM, Pulcrano M, et al. Transcartilaginous ear piercing and infectious complications: a systematic review and critical analysis of outcomes[J]. *Laryngoscope*, 2015, 125(8): 1827-1834

[14] Duchi S, Doyle S, Eckel T, et al. Protocols for Culturing and Imaging a Human Ex Vivo Osteochondral Model for Cartilage Biomanufacturing Applications[J]. *Materials (Basel)*, 2019, 12(4)

[15] Davidi E, Paz A, Duchman H, et al. Perichondritis of the auricle: analysis of 114 cases[J]. *IMAJ*, 2011, 13(1): 21-24

[16] Lelong AG, Mallet S, Le Treut C, et al. *Pseudomonas aeruginosa* in post-piercing perichondritis: Two case reports[J]. *Arch Pediatr*, 2017, 24(12): 1235-1240

[17] Almusta Z Z, Sasama B, Peitsch W K. Perichondritis of the ear in an Afghan immigrant [J]. *Jddg Journal Der Deutschen Dermatologischen Gesellschaft*, 2017, 16(4)

[18] 庄汉, 王国庆, 张其昌, 等. 感染期先天性耳前瘻管手术对病变区皮肤及耳廓软骨的处理[J]. *中国实用医药*, 2015, 10(36): 26-27

[19] Warner E, Weston C, Barclay-Kingle N, et al. The swollen pinna[J]. *BMJ*, 2017: j5073

[20] Bassiouny A. Perichondritis of the auricle[J]. *Laryngoscope*, 1981, 91(3): 422-431

[21] Tseng CC, Shiao AS. Postoperative auricular perichondritis after an endaural approach tympanoplasty[J]. *J Chin Med Assoc*, 2006, 69(9): 423-427

[22] Lucerna A, Espinosa J. Acute atraumatic pinna (auricular) perichondritis[J]. *World Journal of Emergency Medicine*, 2018, 9(2): 152

[23] 张帆, 张杨, 鲍玉霞. 耳廓化脓性软骨膜炎的病原学分析及临床意义[J]. *临床耳鼻咽喉头颈外科杂志*, 2015, 29(02): 168-170

[24] Prasad HK, Sreedharan S, Prasad HS, et al. Perichondritis of the auricle and its management[J]. *J Laryngol Otol*, 2007, 121(6): 530-534

[25] 陈泽宇. 自体耳廓软骨在听骨链重建术中的运用[J]. *临床耳鼻咽喉头颈外科杂志*, 2015, 29(19): 1680-1682

[26] Stroud MH. A simple treatment for suppurative perichondritis[J]. *Laryngoscope*, 1963, 73: 556-563

[27] 罗立斌, 李育广. 糖尿病患者行中耳乳突手术致耳廓化脓性软骨膜炎的治疗体会 [J]. *临床耳鼻咽喉头颈外科杂志*, 2016, 30(07): 569-570

[28] 孙逊, 肖辉, 迟海燕, 等. 糖尿病并发感染临床研究进展[J]. *青岛大学医学院学报*, 2017, 53(04): 499-502

[29] Frasca D, McElhaney J. Influence of Obesity on Pneumococcus Infection Risk in the Elderly[J]. *Front Endocrinol (Lausanne)*, 2019, 10: 71[Epub ahead of print]

[30] Nemoto K, Maegawa H. Infection complicated with diabetes mellitus [J]. *Nihon Rinsho*, 2015; 73(12): 2084-2090