

## . 个案报道 .

## 洛菲氏不动杆菌感染性多发鼻窦炎导致鼻窦沟通脑脓肿 1 例

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**【摘要】** 脑脓肿多因邻近组织感染扩散导致。洛菲氏不动杆菌是一种需氧的革兰氏阴性杆菌,定植于口咽部、皮肤、会阴部等,为一种机会性致病菌,在人体免疫力低下时引起免疫系统受损并导致感染。洛菲氏不动杆菌导致鼻窦沟通脑脓肿临床罕见。本文报道 1 例洛菲氏不动杆菌感染性多发鼻窦炎继发导致鼻窦沟通脑脓肿,24 岁男性,因突发头痛半个月入院,入院血常规、血清 CRP 和降钙素原未见异常;脑脊液常规、生化、细菌及真菌培养未见异常;头颅 CT、MRI 检查考虑左侧额叶多发脓肿,左侧上颌窦和右侧蝶窦囊肿;脑脊液病原微生物检测 DNA、RNA 检测显示洛菲不动杆菌。给予万古霉素、美罗培南、奥硝唑治疗 1 周后,复查头颅 CT 示颅内低密度灶减少。完善术前准备后,行经鼻内镜下左侧鼻窦病变切除+左侧上颌窦、筛窦、额窦切开术。术后 1 个月复查头部 CT 及增强 MRI 示左侧额叶多发脑脓肿吸收、减少。术后 3 个月电话随访头痛明显好转。这提示临床上怀疑脑脓肿时,可行 CT 及 MRI 检查,以明确诊断,并经验性给予抗生素治疗。当培养不能发现病原菌时,可行基因检测增加检出率。

**【关键词】** 脑脓肿;鼻窦沟通脑脓肿;洛菲氏不动杆菌;基因检测

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**One case of sinus-communicating brain abscess caused by *Acinetobacter lwoffii* -induced infectious multiple sinusitis of the paranasal sinuses**

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**【Abstract】** Brain abscesses are most often caused by the spread of infection from neighbouring tissues. *Fusobacterium lophi* is an aerobic Gram-negative bacillus that colonizes the oropharynx, skin, and perineum, and is an opportunistic pathogen that causes damage to the immune system and leads to infection when the body is immunocompromised. It is rare for *Fusobacterium lophi* to cause a sinus-communicating brain abscess. This paper reports a case of sinus-communicating brain abscess secondary to *Fusobacterium lophi* infectious multiple sinusitis, a 24-year-old male, who was admitted to our hospital because of sudden headache for half a month, and there were no abnormalities in blood routine, serum CRP and PCT. Cerebrospinal fluid routine, biochemistry, bacterial and fungal culture showed no abnormality. Head CT and MRI considered multiple abscesses in the left frontal lobe, cysts in the left maxillary sinus and right pterygoid sinus. Cerebrospinal fluid pathogenic microorganism test showed *Lofibacillus*. Vancomycin, meropenem, and ornidazole were given for 1 week, and head CT showed a decrease in intracranial hypodense foci. After perfecting the preoperative preparations, endonasal endoscopic resection of the left sinus lesion, and incision of left maxillary sinus, sieve sinus and frontal lobe were performed. One month after the operation, head CT and enhanced MRI showed that the multiple brain abscesses in the left frontal lobe were absorbed. The headache improved significantly 3 months after the operation. This suggests that when a brain abscess is suspected, CT and MRI should be performed to clarify the diagnosis, and empirical antibiotic treatment should be given. When the culture can not find the pathogenic bacteria, genetic testing can be used to increase the detection rate.

**【Key words】** Brain abscess; Sinus communicating brain abscess; *Fusobacterium lophi*; Genetic testing

脑脓肿常由颅外感染直接扩展或血源性播散引起,可导致颅内压升高和局灶性脑损伤,是一种可危及病人生命的颅内感染性疾病。洛菲氏不动杆菌感染导致鼻窦沟通脑脓肿临床罕见,由于症状不典型,且无明显神经系统阳性体征,容易漏诊导致不良后果。本文报道 1 例洛菲不动杆菌感染性多发鼻窦炎导致鼻窦沟通脑脓肿。

## 1 病例资料

24 岁男性,因突发头痛半个月入院。半个月前,出现头痛。既往儿时头部外伤致左额部、眼眶肿胀(具体不

详);10 年前,因化脓性脑膜炎在当地医院住院治疗 1 个月,后因鼻窦炎出现头痛再次住院 1 周(具体不详)。外院血常规提示白细胞计数  $14.97 \times 10^9/L$ 、中性粒细胞百分比 83.2%。头部 CT 检查显示左侧额叶团片状稍低密度影,左侧侧脑室前角受压,左侧额窦、筛窦软组织密度影,筛窦壁不规则,左侧上颌窦囊肿。未予治疗,头痛自行好转,完善头颅 MRI 增强扫描显示左侧额叶占位,脓肿可疑,左侧额窦小囊肿。脑电图检查未见癫痫样放电。入院后体格检查未见神经系统阳性体征。入院后复查血常规、血清 C 反应蛋白和降钙素原未见异常;脑脊液常规和生化检查以及细菌和真菌培养未见异常;复查头颅 CT 考虑左侧额叶脓肿可能(图 1A、1B);复查头颅 MRI 增强扫描显示左侧额叶多发占位性病变,考虑为脑脓肿可能性大,左侧上颌窦、右侧蝶窦囊肿(图 1C~F);脑脊液病原微生物检测 DNA、RNA 显示洛菲不动杆菌。给予万古霉素、美罗培南、奥硝唑治疗 1 周,复查头颅 CT 显示颅内低密度

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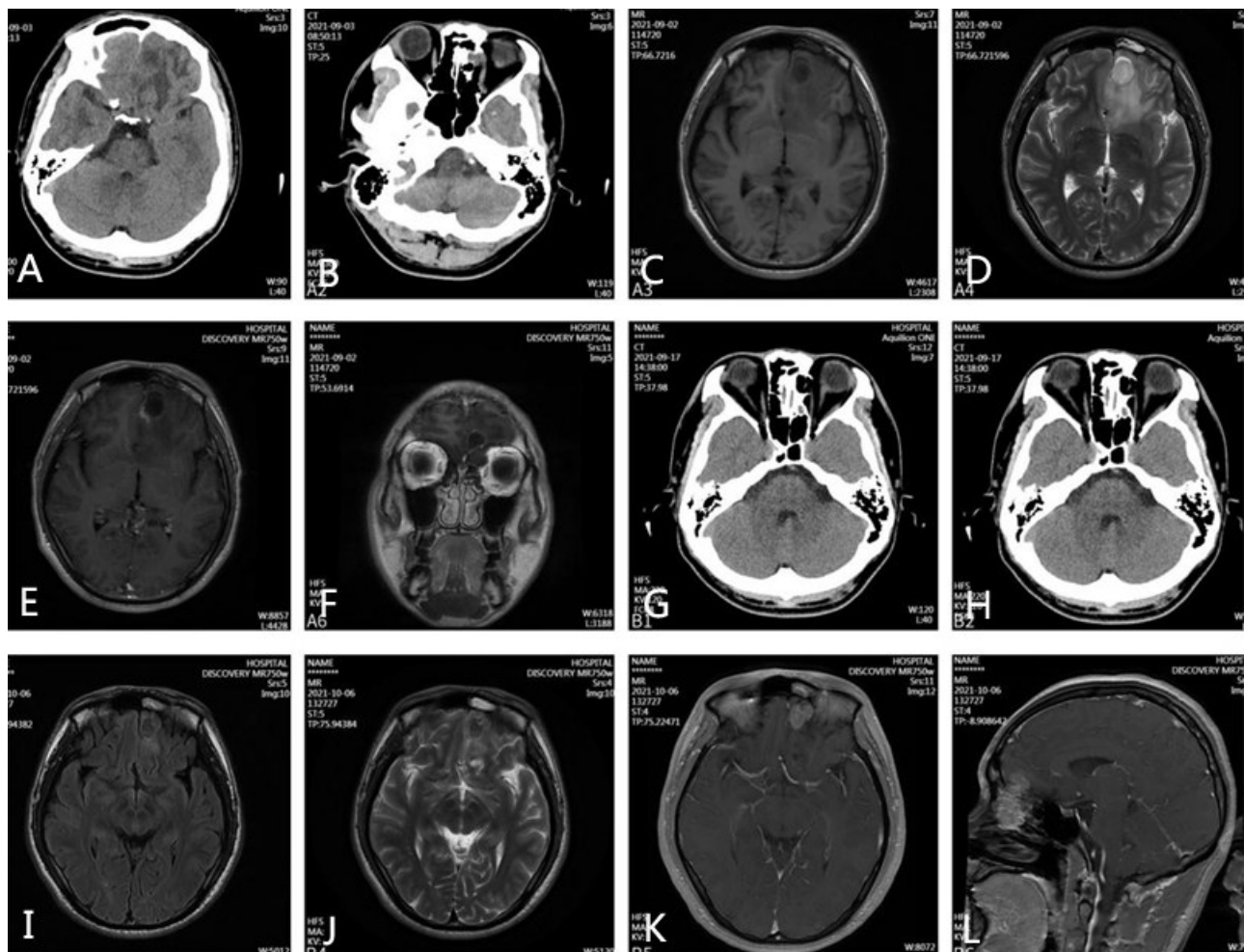


图1 洛菲氏不动杆菌感染性多发鼻窦炎导致鼻窦沟通脑脓肿的影像学表现

A、B. 术前头部CT示左额叶类圆形等低密度灶,左筛骨眶板形态欠规则并一类圆形等密度灶,与颅内病变相连续;C-F. 术前MRI,T<sub>1</sub>WI呈环形等信号,中央为低信号,T<sub>2</sub>WI中央低信号,环呈等高信号,增强后呈均匀环形强化,环内壁光滑,厚薄均匀一致,周围无强化;G、H. 术后头部CT示左额叶不规则低及稍低密度灶范围较前缩小,密度较前增高,左筛骨眶板局部破坏并一类圆形等密度灶,与颅内病变连续;I-L. 术后MRI,T<sub>1</sub>WI信号较术前增高,T<sub>2</sub>WI呈高信号,增强后未见异常强化

Figure 1 Imaging of a sinus-communicating brain abscess due to *Acinetobacter loffi* infectious multiple sinusitis

A-B: Preoperative head CT showed a left frontal lobe class of rounded isointense foci, left sieve orbital plate with irregular morphology and a class of rounded isointense foci, which was contiguous with the intracranial lesion. C-F: Preoperative MRI T<sub>1</sub>WI showing ring isos-signal and central low signal, T<sub>2</sub>WI showing central low signal and ring isos-high signal, enhancement was uniform ring-shaped enhancement, the inner wall of the ring was smooth, thickness was uniform, and there was no enhancement in the periphery. G-H. Postoperative CT showed that the range of left frontal lobe was reduced, and the left sieve orbital plate was patially destroyed and a class of round isodense foci, which was continuous with intracranial lesion. I-L. Postoperative MRI showed increased in T<sub>1</sub>WI and T<sub>2</sub>WI signals, and no abnormal enhancement.

灶消减;病人出现皮疹,遂将万古霉素更换为利奈唑胺。排除手术禁忌症后,行鼻内镜下左侧鼻窦病损切除+左侧上颌窦、筛窦、额窦切开术,术中见筛房内脓性分泌物填充,留取标本后,充分开放筛房,向上开放鼻丘气房,见额窦黏膜肿胀,予以脑棉片引流,生理盐水反复冲洗后,填塞含地塞米松钠的棉块。术后继续抗感染治疗,复查细菌及真菌培养阴性;复查头部CT及增强MRI示左额叶多发脑脓肿较前吸收减少(图1G~L)。术后1个月,复查CT显示脓肿较前缩小,给予出院,继续口服抗生素;3个月后电话随访头痛症状明显好转。

2 讨论

脑脓肿多因邻近组织感染扩散导致,国外有文献报道发病率在(0.3~0.9)/10万<sup>[1]</sup>,多为多种致病菌混合感染,且多为革兰阳性球菌<sup>[2-3]</sup>,常表现为头痛、恶心、发热、局灶性神经功能障碍。入院时,病人症状多不明显,多依靠MRI增强明确诊断,尤其DWI及MRS检查可提高检出率<sup>[4]</sup>。

洛菲氏不动杆菌是一种需氧的革兰氏阴性杆菌,定植于口咽部、皮肤、会阴部等<sup>[5]</sup>,为一种机会性致病菌,在人体免疫力低下时可引起免疫系统受损并导致感染<sup>[6]</sup>。洛菲氏不动杆

菌导致的脑脓肿临床罕见<sup>[7]</sup>。洛菲氏不动杆菌属于少见病原体,限于目前医疗条件,培养及鉴定诊断容易疏漏,缺乏药物敏感性分析结果。本文病例脑脊液及脓肿液培养呈现阴性。虽然本文病例细菌培养阴性。但高度怀疑脑脓肿,我们给予万古霉素+美罗培南+奥硝唑覆盖治疗。有学者认为脑脓肿手术前需抗生素应用4~6周,如单纯抗生素治疗需应用6~8周<sup>[8]</sup>。本文病例应用抗生素2周,术后静脉应用抗生素2周后改为口服药物治疗有效。根据本文病例的病史,考虑鼻窦感染导致颅内感染。因此,在处理原发病病灶的同时,抗生素应用要尽可能“长”疗程。另外,有研究表明静脉联合鞘内注射优于单纯静脉用药<sup>[9]</sup>。本文病例无明显临床症状,考虑并非急性期而未给予鞘内注射。

目前,关于手术方式,存在两种选择:当脓肿尚未形成包裹,脓肿腔直径小于2.5 cm,多行保守治疗<sup>[10]</sup>;当包裹形成需手术治疗,目前首选开颅脓肿清除手术和穿刺引流术,具体手术方式的选择仍存争议<sup>[11,12]</sup>。结合本文病例,我们猜测脑脓肿形成原因:①既往颅脑损伤造成颅底缺损,为后续脑膜炎、脑脓肿提供条件,是鼻窦炎化脓向颅内侵入导致;②病人为青年男性,脑膜炎、慢性鼻窦炎病史10余年,未明确病菌及规律治疗,可能留置病原菌长期带菌生存或者慢性脑脓肿缓慢进展。我们考虑本文病例脓肿形成机制是鼻窦炎化脓向颅内侵袭导致,所以鼻窦内为原发灶,而开颅脓肿清除及立体定向穿刺均不能达到清除原发病灶手术效果,综合考虑后,我们采用鼻内镜下左侧鼻窦病变切除+左侧上颌窦、筛窦、额窦切开术。这提示临床上要根据具体情况具体分析,选择合适的手术方式。

综上所述,临床上碰到不明病原菌的病灶,怀疑脑脓肿时,可行CT及MRI检查,以明确诊断,并经验性给予抗生素治疗。当脑脊液培养不能发现病原菌时,可行基因检测增加检出率。治疗上,首选静脉及鞘内注射联合应用抗生素;待病灶局限形成包裹符合手术指征时,及时行脓肿清除术,手术方式上不必局限,以清除致病原发灶而又最少导致神经损伤为主。术后继续应用抗生素,并定期复查MRI及CT,如脓肿病灶未与脑脊液信号或密度相同,即使未见发热也仍需继续静脉抗生素治疗。

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