• 论著 •

内源性肺炎克雷伯杆菌性眼内炎七例

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【摘要】 目的　观察分析内源性肺炎克雷伯杆菌性眼内炎（EKPE）的眼部特征及治疗预后。**方法**　回顾分析EKPE 7例8只眼的临床资料。其中，男性3例4只眼，女性4例4只眼。年龄39～76岁，平均年龄57.29岁。双眼发病1例，单眼发病6例。7例患者均无外伤史、手术史，但均存在前驱感染病史、糖尿病、系统性红斑狼疮长期糖皮质激素治疗、肝脓肿、肾功能不全行透析治疗、霍奇金淋巴瘤行化学药物治疗等易感因素。所有患眼均行视力、裂隙灯显微镜及眼底检查，观察其眼部情况。8只眼中，发病后2 d～2周行晶状体切除联合玻璃体切割手术7只眼，手术后眼内注射抗生素；仅给予眼内注射抗生素治疗1只眼。收集手术眼的玻璃体液、前房水进行涂片及培养，同时进行血培养及药物敏感（药敏）试验。根据药敏试验结果给予亚胺培南、美罗培南等碳青霉烯类抗生素，静脉注射1～2周。手术后随访3 d～1年，观察患者的预后情况。**结果**　8只眼中，初次就诊时视力光感4只眼，手动3只眼，0.1者1只眼。前房积脓6只眼，混浊2只眼。均存在玻璃体混浊。眼底可见视盘、黄斑水肿及视网膜血管闭塞等改变。7只手术眼手术后玻璃体液、前房水培养结果均为肺炎克雷伯杆菌。末次随访时，视力无光感、光感、手动、0.05、0.5各1只眼；视力0.05、0.5者为前房混浊的2只眼；眼球摘除1只眼。双眼发病患者因多器官衰竭死亡。**结论**　EKPE以单眼发病居多，可见视盘、黄斑水肿及视网膜血管闭塞等改变；视力预后通常不良，于前房未积脓时进行早期玻璃体切割手术有助于挽救患眼视力。

【关键词】 眼内炎/诊断；　眼内炎/治疗；　肺炎克雷伯菌

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Seven patients with endogenous klebsiella pneumoniae endophthalmitis *Zhou Jia,　Shen Xi*

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【Abstract】 Objective　To observe and analyze the clinical features and prognosis of endogenous klebsiella pneumoniae endophthalmitis (EKPE). **Methods**　This is a retrospective case series study. Seven patients (8 eyes) with EKPE were enrolled in this study. There were 3 males (4 eyes) and 4 females (4 eyes). The ages were from 39 to 76 years, the mean age was 57.29 years. All these cases had no history of trauma and surgery. Meanwhile, they all had some risk factors, such as infection, diabetes mellitus, systemic lupus erythematosus, liver abscess, renal insufficiency undergoing dialysis treatment, Hodgkin lymphoma and so on. All the eyes were undertaken visual acuity, slit lamp and fundus examination to observe the eye conditions. Seven eyes were undertaken pars plana vitrectomy with intravitreal injection of antibiotics from 2 days to 2 weeks after onset. And only one eye was undertaken intravitreal injection of antibiotics without surgery. Microbial stains and culture were performed for 7 eyes using vitreous and aqueous fluid samples from the procedures of vitrectomy. Meanwhile, culture and drug sensitive tests were performed from blood samples. According to the result of the drug sensitive tests, carbapenems such as imipenem and meropenem were used in each patient through intravenous injection from 1 to 2 weeks. During the follow up period from 3 days to 1 year, prognosis was observed at each office visit. **Results**　From these eight eyes, presenting visual acuity was light perception (4 eyes), hand motion (3 eyes), 0.1 (1 eye). Hypopyon (6 eyes), aqueous fluid opacity (2 eyes) and

diffuse vitreous opacity (8 eyes) were found. Changes in fundus like optic disc, macular edema and retinal vascular occlusion could be observed. Cultures of the vitreous and aqueous fluid samples from vitrectomy were all point out to klebsiella pneumoniae. At last office visit, the visual acuity of patients with hypopyon was no light perception (1 eye), light perception (1 eye), hand motion (1 eye). The visual acuity of patients without hypopyon was 0.05 (1 eye) and 0.5(1 eye). Finally, 1 eye was underwent enucleation and one patient with binocular disease was died of multiple organ failure. **Conclusions** EKPE is almost unilateral attacked. Changes in fundus like optic disc, macular edema and retinal vascular occlusion can be observed. EKPE is commonly associated with poor visual outcomes. It is useful to save patients' visual acuity by performing vitrectomy before hypopyon happened.

【Key words】 Endophthalmitis/diagnosis; Endophthalmitis/therapy; Klebsiella pneumoniae

内源性眼内炎是指细菌或真菌通过血液循环播散进入眼内，引起脉络膜、视网膜、玻璃体等眼内组织的炎症[1-3]。内源性肺炎克雷伯杆菌性眼内炎（EKPE）已成为目前亚洲最常见的内源性细菌性眼内炎之一[4]。但由于国内EKPE常为散发的个案报道，导致国人对其认识还有不足，不少患者在初诊时常被误诊，以至耽误了最佳治疗时机。加之EKPE本身的侵袭性毒性，使其总体预后差。本研究通过回顾性分析7例EKPE住院患者的临床特征、治疗及随访预后等临床资料，以帮助临床进一步认识EKPE。现将结果报道如下。

1 对象和方法

2010年1月至2016年8月在我院眼科接受治疗的EKPE 7例8只眼纳入本研究。其中，男性3例4只眼，女性4例4只眼。年龄39～76岁，平均年龄57.29岁。双眼发病1例，单眼发病6例。7例患者均无外伤史、手术史，但均存在前驱感染病史、糖尿病、系统性红斑狼疮长期糖皮质激素治疗、肝脓肿、肾功能不全行透析治疗、霍奇金淋巴瘤行化学药物治疗等易感因素。所有患眼均行视力、裂隙灯显微镜及眼底检查，观察其眼部情况。

8只眼中，发病后2 d～2周行晶状体切除联合玻璃体切割手术7只眼，手术后眼内注射万古霉素（8.0 mg/ml）和头孢他啶（22.5 mg/ml）；仅给予眼内注射万古霉素（8.0 mg/ml）和头孢他啶（22.5 mg/ml）治疗1只眼。行手术治疗的7只眼中联合硅油填充6只眼，另1只眼未行硅油填充及气体填充并于手术后2个月行2期人工晶状体植入手术。收集手术眼的玻璃体液、前房水进行涂片及培养，同时进行血培养及药物敏感（药敏）试验。根据药敏试验结果给予亚胺培南、美罗培南等碳青霉烯类抗生素，静脉注射1～2周。

手术后随访3 d～1年，观察预后情况。

2 结果

8只眼中，初次就诊时视力光感4只眼，手动3只眼，0.1者1只眼。前房积脓6只眼，混浊2只眼。均存在玻璃体混浊。

8只眼中，视盘颜色苍白4只眼，视盘水肿3只眼，可见少量片状出血1只眼，无法窥清1只眼。同时合并视盘颜色苍白及视盘水肿1只眼。黄斑梗死4只眼，黄斑水肿3只眼，无法窥清1只眼。视网膜苍白3只眼，周边视网膜苍白、水肿2只眼，周边视网膜坏死、多处裂孔及菌落1只眼，颞侧周边裂孔、颞下方视网膜脱离1只眼，无法窥清1只眼。血管广泛闭塞4只眼，颞上下支血管闭塞2只眼，鼻上分支静脉闭塞1只眼，无法窥清1只眼。

7只手术眼手术后玻璃体液、前房水培养结果均为肺炎克雷伯杆菌。血培养结果显示，肺炎克雷伯杆菌2只眼，阴性5只眼。药敏试验结果提示亚胺培南、美罗培南敏感。

8只眼中，手术后视力无光感1只眼，光感3只眼，手动2只眼，0.05、0.2各1只眼。末次随访时，视力无光感、光感、手动、0.05、0.5各1只眼；视力0.05、0.5者为前房混浊的2只眼；眼球摘除1只眼。双眼发病患者因多器官衰竭死亡。

3 讨论

肺炎克雷伯杆菌是革兰氏阴性厌氧菌，是目前院内及社区感染最常见致病菌。肺炎克雷伯杆菌的毒力因子容易突破血眼屏障，造成眼部受累，引起EKPE[5]。EKPE是目前亚洲最常见的内源性细菌性眼内炎，在欧美等国家较为罕见，可能与亚洲地区肺炎克雷伯菌菌血症的发病率较高以及亚洲人群的遗传易感性有关[6]。

肝脓肿、糖尿病、肺炎、肿瘤、全身免疫功能低

下等是EKPE常有全身易感因素，也可见于静脉吸毒、酗酒、外科手术等[3, 7, 8]。本组患者易感因素包括前驱感染病史（感冒、胃肠炎）、糖尿病、系统性红斑狼疮长期糖皮质激素治疗、肝脓肿、肾功能不全行透析治疗、霍奇金淋巴瘤行化学药物治疗等。判断易感因素较为复杂。但有研究表明，肺炎克雷伯菌性肝脓肿是一个重要的易感因素，其造成内源性眼内炎的概率是3%～11%[7, 8]。另有研究表明，糖尿病是EKPE另外一个易感因素，其与视觉不良预后有直接关系[9]。

EKPE的治疗包括全身和眼局部治疗。全身治疗一般包括广谱抗生素、肝脓肿引流、控制血糖、全身支持营养等。本组患眼药敏试验结果提示肺炎克雷伯杆菌对碳青霉烯类抗生素敏感，而对于头孢菌素、喹诺酮类、大环内脂类抗生素耐药，故针对性给予亚胺培南、美罗培南等全身静脉治疗。国外药敏试验结果通常是氨基糖胺类、第二三代头孢菌素、第三代喹诺酮类药物[5]。分析国内外药敏试验结果不同的原因可能与我国抗生素的使用有欠规范及合理有关，造成了较多抗生素的耐药。眼部治疗方法包括眼内注药和手术。虽然目前EKPE还没有统一指南，但普遍共识认为，炎症比较轻的可以进行玻璃体腔内注药治疗，而较严重的眼内炎需要通过手术治疗。Ang等[10]发现，前房积脓、单侧受累、全眼球炎是影响EKPE预后的主要不良因素。本组患眼中，预后视力相对较好的2只眼均是在未出现前房积脓、视网膜血管未广泛闭塞时进行的手术。据此我们认为，早期进行玻璃体切割手术联合手术后抗生素眼内注射有助于有效清除病原菌及脓性物质，还有利于抗生素药物在玻璃体内的渗透[11]。

EKPE表现多样，不具有特征性表现，通常可表现为前房积脓、玻璃体大量混浊、视网膜苍白、视盘苍白、黄斑梗死或水肿、视网膜血管广泛闭塞等，早期诊断比较困难，可能与虹膜睫状体炎、急性坏死性视网膜炎、全葡萄膜炎等相混淆[12]。故当出现上述非特异性表现时，需提高警惕，勿错过了早期的最佳治疗时期，以免造成不良视力预后甚至眼球摘除的后果。

本研究结果表明，对于存在肝脓肿、糖尿病、长期使用糖皮质激素、抗生素等全身高危因素的患者，需要提高警惕；发现前房、玻璃体混浊，未发生全眼球炎时需进行前房水的检测甚至诊断性玻璃体切割手术，及时进行培养及药敏试验鉴定。可全身给予碳青霉烯类抗生素，再根据药敏试验结果调整用药。临床应同时联合ICU、内分泌、消化科等组建EKPE的筛查机制，做到及时会诊、转诊，提高EKPE的早期诊断率，努力挽救患眼视力，提高患者生存质量。由于本研究样本量偏少，其结果有待以后大样本量研究进一步验证。

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