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Pneumocystis jiroveci pneumonia (PJP) is a severe and life-threatening complication in immunocompromised patients. Although TMP-SMZ is well known for its effectiveness for the prophylaxis and treatment of PJP, it was associated with various adverse effects. Caspofungin is a novel antifungal agent that acts on the synthesis of beta-1,3-D-glucan which is major component on the wall of fungus. The previous clinical experiences suggested that the addition of caspofungin to TMP-SMZ might provide a synergistic activity against P. jiroveci via inhibiting the organism life cycle. Herein, we present 3 cases of severe PJP in renal transplant recipients treated by combination with caspofungin and low-dose SMZ.

In our first two cases, the patients received standard dose of TMP-SMZ as first-line treatment, but they both required dosage reduction due to the drug toxicities. Secondly, TMP-SMZ has been considered as bacteriostat and it affects only the trophic forms but not the cyst of the Pneumocystis spp. As a result, single use of TMP-SMZ may be unable to blunt the full-blown onset of severe PJP. Thirdly, accumulating evidence of mutations of the gene that encodes dihydropteroate synthase in pneumocystis has aroused concern about the potential for the emergence of resistance to sulfa agents. Several studies have implicated specific mutations in dihydropteroate synthase that are associated with the failure of TMP-SMZ prophylaxis and treatment. The limitations of conventional treatments of TMP-SMZ lead us to search for new anti-infectious strategy in severe PJP. Although the patient in the first case finally died from pneumothorax, significant improvement in chest X-rays was observed. This promising therapeutic effect led us to prescribe caspofungin in patient 2 as salvage therapy after first-line treatment failure and in patient 3 as a component of initial anti-infection strategy. According to our clinical experiences in these three cases, the addition of caspofungin to low dose TMP-SMZ would not only improve better clinical efficacy but also decrease incidence of adverse effects.

移植肾 BK 病毒相关性肾病与晚期急性排斥的临床病理特点及预后分析

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【目的】探讨移植肾 BK 病毒相关性肾病与晚期急性排斥的临床及病理特点，进而为其诊断、治疗及预后提供借鉴。

【方法】回顾性研究移植肾 BK 病毒相关性肾病患者 17 例（BKVAN 组）与同期晚期急性排斥患者 27 例（AR 组），均经移植肾活检病理明确诊断。采用 t 检验及 X2 检验比较组间免疫抑制剂血药浓度、PRA、血红蛋白、外周血淋巴细胞亚群、尿蛋白、尿红细胞、尿 NAG 酶、尿 RBP、急性肾小管损伤标志物（NGAL、KIM-1、IL-18）水平的差异，分析移植肾活检病理免疫荧光染色及免疫组织化学染色方面的差异，采用 Kaplan-Meier 法评价预后（血肌酐倍增时间）。

【结果】BKVAN 组 MMF 血药浓度高于 AR 组（47.63±18.32 vs 36.47±7.79mg.h/l，p=0.039），CNI 血药浓度组间无明显差异。组间血红蛋白、PRA、外周血 CD4 细胞及 CD8 细胞计数无明显差异。BKVAN 组尿蛋白定量显著低于 AR 组（0.25±0.23 vs 0.77±0.78 g/24h，p=0.002）；BKVAN 组尿红细胞阳性率低于 AR 组（12.50% vs 44.44%，p=0.031）；BKVAN 组尿 NAG 酶低于 AR 组（12.87±10.40 vs 24.40±18.64u/g.cr，p=0.013），组间尿 RBP 无明显差异（6.47±8.47 vs 7.46±10.60mg/l，p=0.758）；急性肾小管损伤标志物方面，BKVAN 组 IL-18 低于 AR 组（15.01±8.05 vs 76.98±191.39μg/l，p=0.014），组间 NGAL 及 KIM-1 无明显差异。组间移植肾组织免疫荧光染色阳性率、间质浸润细胞类型及数量均无明显差异，BKVAN 组 HLA-DR 表达明显低于 AR 组（10.63±13.97 vs 33.19±29.37%，p=0.002）。两组平均随访 17.01±14.36 月，BKVAN 组预后较 AR 组差（p=0.039）。

【结论】与移植肾晚期急性排斥相比，移植肾 BK 病毒相关性肾病患者免疫抑制剂血药浓度高，蛋白尿程度轻，血尿发生率低，肾小管急性损伤程度轻。二者均存在较多的移植肾间质炎细胞浸润，HLA-DR 表达水平对二者鉴别诊断具有重要意义。移植肾 BK 病毒相关性肾病的预后较晚期急性排斥差，移植肾功能多呈进行性恶化。

An artificial vascular graft use in the kidney transplantation for protein S deficiency

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The patient, a 41-year-old man, came to our center requesting for a related kidney transplantation(the living donor was his father).There was no accident in the planned right donor nephrectomy.Unexpectedly, the obstructions of the bilateral iliac vein even infrahepatic vena cava were found in the following operation.We had no alternative but to use an artificial vascular graft to interpose between the donor renal vein and recipient's right great saphenous vein.After surgery the patient had the normal renal function.The color Doppler and CT angiography imaging showed the artificial vascular good patency of the cava with no evidence of thrombosis.Further the protein S deficiency was diagnosed and the anticoagulant warfarin was used.

Introduction In the transplant surgery, artificial blood vessels are often used to replace the original presence of dysfunction of blood vessels, and for the reconstruction of the blood circulation of the transplanted organs. Its use has been several successful precedents.We report it that the patient suffering from extensive deep vein thrombosis successfully underwent the living related kidney transplantation with the use of artificial blood vessels.