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· 病例报道 ·

Ultrasonic diagnosis of left external iliac artery thromboembolism after second kidney transplantation: a case report

超声诊断二次肾移植术后左侧髂外动脉血栓栓塞 1 例

许小利 王志辉

[中图分类号]R445.1

[文献标识码]B

患者男,49岁,呕吐、腹膜透析两年余,既往有糖尿病史16年、乙肝病史11年,我院器官移植科诊断为慢性肾功能衰竭、尿毒症期,维持性腹膜透析。患者于肾移植术前行彩色多普勒超声检查提示髂血管未见异常,术中、术后常规使用甲基强的松龙抗排斥治疗,术后使用他克莫司+霉酚酸酯+强的松三联免疫抑制治疗,手术顺利。术后7d患者排便后出现移植肾区疼痛,超声检查提示移植肾周水肿,急诊手术见移植肾破裂,压迫止血无效,遂切除移植肾。患者后行第二次肾移植术,两次肾移植髂动脉、静脉均采用同一吻合位置:供肾动脉与患者左侧髂外动脉、供肾静脉与患者左侧髂外静脉均采用端侧吻合。第二次肾移植术后患者肾功能恢复延迟,术后多次床旁超声检查提示:移植肾动脉阻力指数偏高,移植肾各级动脉血流速度偏低(图1),3个月后复查超声提示:左侧髂外动脉吻合口近心段局限性管腔闭塞,吻合口远心段呈反向血流,血流速度17.4 cm/s,阻力指数0.61(图2)。DSA检查:左侧髂外动脉起始段局限性管腔闭塞,于吻合口上方管腔闭塞处置入一枚支架,支架置入后左侧髂外动脉管腔闭塞解除,患者尿量逐渐增多,每天可达1000 ml,遂停止透析治疗。半个月后患者开始出现腹水、恶心呕吐等情况,实验室检查提示血钾偏高,行抽腹水治疗后患者尿量减少至无尿,1周后复查超声:左侧髂外动脉血流管腔未见闭塞,吻合口远心段血流方向和速度均正常,移植肾内

血流丰富(图3),2d后患者开始行规律血液透析治疗。患者第二次肾移植术后半年复查超声提示:移植肾明显萎缩,移植肾肾主动脉峰值流速179.0 cm/s,阻力指数0.86(图4)。

讨论:肾移植术后早期血管并发症主要有移植肾周围水肿、移植肾动静脉出血、吻合口出血、狭窄、血栓、移植肾动静脉血栓形成及移植肾动脉狭窄等^[1],其中血栓最常见于移植肾动脉和吻合口处,移植肾供血相关的髂动脉血栓栓塞较罕见。文献^[2]报道1例46岁男性患者于肾移植术后13年发生右侧髂总动脉(移植肾与右侧髂外动脉之间行端侧吻合)明显狭窄,行血管腔内成形术后2年,患者右侧髂总动脉因血栓而闭塞,最终通过双侧股动脉之间搭桥恢复右侧髂总动脉和移植肾血供,移植肾功能得以恢复正常。本例患者行两次肾移植,两次动脉吻合均采用同一位置,增加了吻合口血栓发生率,同时患者有糖尿病史,血液处于高凝状态,更容易发生血栓。患者于第二次肾移植术后多次超声检查提示移植肾动脉血流速度明显偏低,3个月后发现移植肾供血的左侧髂外动脉存在血栓性闭塞,后行髂动脉支架置入术,虽然移植肾血供得到了较好恢复,但移植肾功能最终并未恢复正常,考虑原因是移植肾缺血时间过长导致了不可逆的缺血损伤。

本病例提示临床医师当患者具有发生血栓的高危因素,且超声检测到移植肾动脉血流速度减低时,需高度警惕移植肾相

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关血栓并发症的可能;若常规未在移植肾动脉及吻合口处检测到血栓,还需检查同侧移植肾供血的髂动脉是否有血栓形成。本例患者于第二次肾移植术后3个月复查超声,提示左侧髂外动脉吻合口近心段局限性管腔闭塞,吻合口远心段血流反向,推测血供可能有两种来源:①左侧髂内动脉系统与左侧髂外动脉吻合口远心段之间有交通支,通过这些交通支动脉,左侧髂内动脉系统向左侧髂外动脉吻合口远心段供血;②左、右侧髂动脉系统之间有交通支^[2],通过这些交通支向左侧髂外动脉吻合口远心段直接或间接供血。

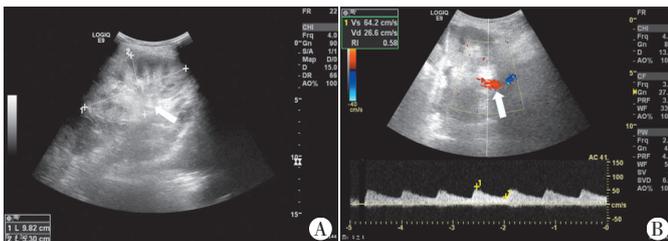
总之,彩色多普勒超声具有无辐射、无创、可重复性好的优

势,对移植肾相关血管并发症具有较高的检出率,对于肾移植血栓的高危患者,除常规检测移植肾动脉及吻合口外,还需检查同侧髂动脉。

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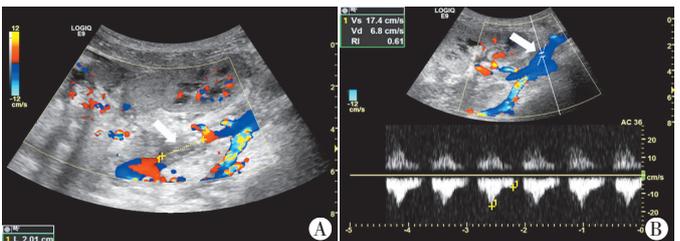
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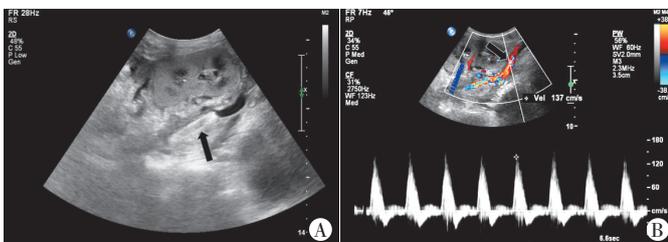
A: 移植肾(箭头示)大小9.8 cm×5.4 cm,实质厚度2.2 cm,移植肾实质回声增强;B:移植肾肾主动脉(箭头示)峰值流速减低(64.0 cm/s),阻力指数偏低(0.58)

图1 第二次肾移植术后14 d超声检查图



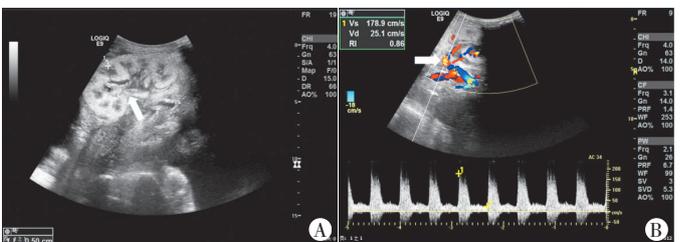
A: 移植肾实质回声增强,左侧髂外动脉吻合口近心段见长约2.0 cm管腔闭塞(箭头示),内见低回声区填充,未见血流;B:左侧髂外动脉吻合口远心段血流反向(箭头示),向近心端流动,血流速度减低,峰值流速17.4 cm/s,阻力指数0.61

图2 第二次肾移植术后3个月超声检查图



A: 左侧髂外动脉内见支架回声(箭头示),移植肾大小10.4 cm×4.9 cm,实质厚度2.0 cm,移植肾实质回声增强;B:左侧髂外动脉(箭头示)管腔内血流充盈良好,血流方向未见异常,峰值流速137.0 cm/s

图3 支架置入后21 d超声检查图



A: 移植肾萎缩(箭头示),大小为8.9 cm×4.3 cm,实质厚度1.7 cm,移植肾实质回声增强;B:移植肾肾主动脉(箭头示)峰值流速179.0 cm/s,阻力指数0.86

图4 第二次肾移植术后半年超声检查图

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