·手术视频·

系列视频1

局部麻醉下使用Pipeline血流导向装置治疗未破裂颈内动脉海绵窦段巨大动脉瘤1例

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吕明，首都医科大学附属北京天坛医院神经外科学中心，主任医师，教授，医学博士，博士研究生导师。专门从事神经系统血管病的介入治疗，主攻颅内动脉瘤、蛛网膜下腔出血、脑血管畸形、颈动脉海绵窦瘘、硬脑膜动静脉瘘、脊髓血管畸形、脑动脉狭窄、缺血性脑卒中等各类脑脊髓血管病。目前科研方向致力于颅内动脉瘤介入治疗的规范化和个体化，受国家自然科学基金、北京市科技新星计划、北京市优秀人才项目和北京市卫生系统高层次卫生技术人才培养计划资助。

学术任职：中国研究型医院学会脑血管病专业委员会委员、中国医师协会出血性脑血管病神经介入专业委员会秘书、中国医师协会神经介入专业委员会青年委员会第一届委员会委员。

【摘要】 自血流导向装置应用于临床以来，各医疗中心对于未破裂颅内动脉瘤的血流导向装置植入术多采用全身麻醉方式。本研究报道 1 例 60 岁女性右侧颈内动脉海绵窦段巨大动脉瘤患者在局部麻醉下成功行Pipeline血流导向装置植入术的治疗案例。手术过程顺利，患者术中神经功能状态稳定，术后未发生相关并发症。本研究证实，局部麻醉下Pipeline血流导向装置植入术具有临床可行性，这为颅内动脉瘤的介入治疗提供了新的麻醉选择方案。

【关键词】 颅内动脉瘤，Pipeline血流导向装置，局部麻醉

【文章编号】 2095-834X（2024）11-79-02

DOI: 10.26939/j.cnki.CN11-9353/R.2024.11.008

本文著录格式：董灵根，吕明. 局部麻醉下使用Pipeline血流导向装置治疗未破裂颈内动脉海绵窦段巨大动脉瘤 1 例[J]. 当代介入医学电子杂志，2024，1(11)：79-80.

Treatment of a giant unruptured cavernous segment internal carotid artery aneurysm with the pipeline embolization device under local anesthesia: a case report

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【Abstract】 Since the introduction of flow-diverter into clinical practice, most medical centers have performed flow-diverter implantation for unruptured intracranial aneurysms under general anesthesia. This paper reports the successful treatment of a 60-year-old female patient with a giant unruptured cavernous segment internal

收稿日期：2024-07-18

carotid artery aneurysm using pipeline embolization device under local anesthesia. The procedure was completed without complications, with the patient maintaining stable neurological status throughout the surgery. This case demonstrates the clinical feasibility of pipeline device implantation under local anesthesia, offering an alternative anesthetic approach for the endovascular treatment of intracranial aneurysms.

【**Keywords**】 intracranial aneurysm; pipeline embolization device; local anesthesia

本研究报道了 1 例 60 岁女性颅内动脉瘤患者，在局部麻醉下成功实施Pipeline血流导向装置（pipeline embolization device, PED）植入术的治疗经验。患者 3 个月前因头晕症状就诊，经头颅CTA检查确诊为右侧颈内动脉海绵窦段巨大动脉瘤。

术前评估：(1)动脉瘤体积较大，可能需要微导丝成袢技术跨越瘤颈；(2)存在单枚PED无法完全覆盖瘤颈的可能性，需做好双PED桥接植入的准备，以预防装置短缩或移位。基于患者一般状况良好且强烈要求局部麻醉，我们最终选择在局麻下实施手术。

局麻的优势：(1)术中可实时进行神经功能评估，有利于早期发现和处理手术相关并发症；(2)避免气管插管相关风险，显著降低心肺系统并发症发生率，尤其适合合并基础疾病的高危患者。本病例为神经介入治疗提供了新的技术思路和临床参考。

This study reports the treatment experience of a 60-year-old female patient with an intracranial aneurysm who successfully underwent implantation of a Pipeline Embolization Device (PED) under local anesthesia. The patient initially presented with dizziness three months prior and was diagnosed with a large cavernous segment aneurysm of the right internal carotid artery via cranial computed tomography angiography.

Preoperative assessment revealed the following considerations: (1) Due to the large size of the aneurysm, microguidewire looping techniques might be required to navigate across the aneurysmal neck. (2) A single PED might not provide complete coverage of the aneurysm neck, necessitating the potential use of a telescoping dual-PED strategy to prevent device shortening or displacement. Given the patient's stable general condition and strong preference for local anesthesia, the procedure was ultimately performed without general anesthesia.

Advantages of local anesthesia include: (1) Real-time intraoperative neurological assessment, facilitating early detection and management of procedure-related complications. (2) Avoidance of risks associated with tracheal intubation, significantly reducing cardiopulmonary complications, particularly in high-risk patients with comorbidities. This case offers a novel technical approach and valuable clinical reference for neurointerventional procedures.

（本文编辑：马萌萌，许守超）

（上接第 78 页）

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（本文编辑：马萌萌，许守超）