

ENDOVASCULAR TREATMENT IN REFRACTORY CASES OF IDIOPATHIC INTRACRANIAL HYPERTENSION (IIH): THE EXPERIENCE OF THE STROKE UNIT OF MODENA

M. Menabue, L. Giacobazzi, S. Seri, M. Medici, F. Mazzoni, L. Vandelli, M. Dell'Acqua, G. Vandelli, F. Rosafio, L. Picchetto, J. Mandrioli, G. Bigliardi

Affiliations:

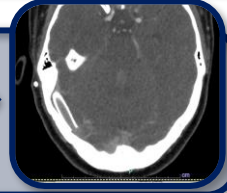
- Stroke Unit, Neurology Unit, Department of Neuroscience, Ospedale Civile di Baggiovara, Azienda Ospedaliero-Universitaria di Modena, Modena, Italy
- Department of Biomedical, Metabolic and Neural Sciences, University of Modena and Reggio Emilia, Modena, Italy.

Idiopathic intracranial hypertension (IIH) mostly affects young females, especially overweight and of reproductive age, with potential severe repercussions on visual loss or other cranial nerve dysfunction. In refractory cases, the use of serial lumbar punctures or other surgical techniques remains controversial and definitive treatments are needed. Given the **frequent association with single or bilateral transverse venous sinus stenosis, endovascular stenting of the dominant or the more stenotic lateral sinus may be a valid treatment option.**

We describe five patients with refractory IIH undergoing endovascular treatment with favorable outcomes.

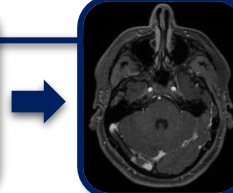
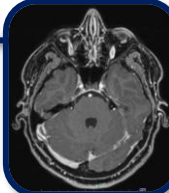
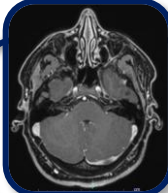
CASE 1

E.B., a 32-year-old woman with severe obesity, persistent headache, persistent headache and bilateral visual blurring showed MRI findings of IIH and bilateral transverse sinus stenosis. Despite medical therapy and two evacuative lumbar punctures, she developed a severe reduction in visual acuity and visual field restriction. She was firstly treated with ventriculo-peritoneal shunt and then with right transverse sinus stenting.



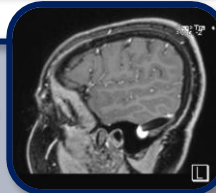
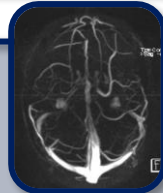
CASE 2

A.R., a 24-year-old woman with severe obesity, persistent headache and bilateral visual blurring, had MRI signs of IIH associated with moderate stenosis of the left transverse sinus and severe stenosis of the right one, the latter treated with stenting.



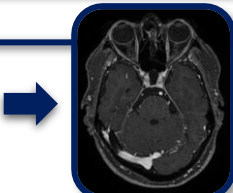
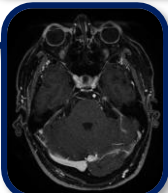
CASE 3

D.S., a 31-year-old woman with obesity, cough and central scotoma in right eye was found to have IIH and severe bilateral transverse sinuses stenosis. Diuretic therapy and lumbar puncture showed no clear benefit, therefore left transverse sinus stenting was attempted.



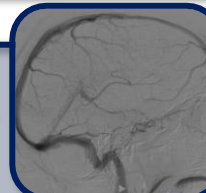
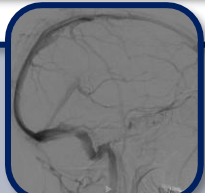
CASE 4

G.C., a 64-year-old woman with headache and visual blurring presented with neuroradiological findings compatible with IIH and severe bilateral transverse sinus stenosis. Medical therapy and evacuative lumbar punctures failed to improve her condition therefore right transverse sinus stenting and angioplasty of the left one were performed.



CASE 5

F.R., a 20-year-old woman with obesity developed progressive bilateral visual blurring and left VI cranial nerve palsy. Neuroimaging was compatible with IIH and severe bilateral transverse sinus stenosis and the right one was treated with stenting after an unsuccessful attempt of CSF evacuation through lumbar puncture.



We described five patients with IIH refractory to medical therapy and evacuative lumbar punctures. **Every patient was treated with endovascular procedure and venous sinus stenting, with favorable clinical evolution in terms of headache relief and improvement of visual acuity and visual field.** Therefore, endovascular treatment may prove to be a valid option in these cases.

Bibliography:

- 1) Wang MTM, Bhatti MT, Danesh-Meyer HV. Idiopathic intracranial hypertension: Pathophysiology, diagnosis and management. J Clin Neurosci. 2022 Jan;95:172-179. doi: 10.1016/j.jocn.2021.11.029. Epub 2021 Dec 17. PMID: 34929642.
- 2) Case D, Seinfeld J, Roark C, Kump D. Idiopathic Intracranial Hypertension: Contemporary Management and Endovascular Techniques. Semin Intervent Radiol. 2020 Jun;37(2):175-181. doi: 10.1053/s-0040-1709172. Epub 2020 May 14. PMID: 32419730; PMCID: PMC7224981.
- 3) Liu X, Di H, Wang J, Cao X, Du Z, Zhang R, Yu S, Li B. Endovascular stenting for idiopathic intracranial hypertension with venous sinus stenosis. Brain Behav. 2019 May;9(5):e01279. doi: 10.1002/brb3.1279. Epub 2019 Apr 4. PMID: 30950244; PMCID: PMC6520302.