

Harold D. Portnoy

Inventó junto a [Rudi Schulte](#) en 1973, la primera [válvula ajustable](#) de forma comercial para pacientes con hidrocefalia.

Esta válvula se encuentra todavía en uso, y se utiliza principalmente en combinación con una derivación existente en pacientes que reciben quimioterapia intraventricular.

La válvula tiene un simple bloqueo mecánico que se cierra mediante la aplicación de presión externa con un solo dedo. En una serie retrospectiva de 15 pacientes con un total de 16 implantes entre 2003 y 2010 se obtuvo una alta incidencia de oclusiones accidentales debido a que el mecanismo funciona siempre y cuando no hay presión externa que comprima la válvula. Sin embargo, las posiciones de la cabeza representan riesgos significativos para las oclusiones no intencionales. Por lo que hay que hacer hincapié en la importancia de: (1) una posición cerca de la línea media evitando la zona retroauricular o regiones occipitales, (2) un entrenamiento del manejo para las enfermeras y los médicos, (3) la instrucción a pacientes y familiares, y (4) la retirada del dispositivo tras el tratamiento citostático intratecal (Hertle y col., 2010).

Bibliografía

Hertle, Daniel N, Johannes Tilgner, Karin Fruh, Timo Keinert, Anna M Hagenston, Andreas W Unterberg, and Alfred Aschoff. 2010. "Reversible Occlusion (on-off) Valves in Shunted Tumor Patients." *Neurosurgical Review* 34 (2) (April): 235-242. doi:10.1007/s10143-010-0297-y.

Publicaciones

- 1: Portnoy HD, Amirjamshidi A, Hoffman HJ, Levy LP, Haase J, Scott RM, Zhao YD, Peter J, Krivoy A, Sotelo J. Shunts: which one, and why? *Surg Neurol.* 1998 Jan;49(1):8-13. PubMed PMID: 9428888.
- 2: Fox JL, Portnoy HD, Shulte RR. Cerebrospinal fluid shunts: an experimental evaluation of flow rates and pressure values in the anti-siphon valve. *Surg Neurol.* 1973 Sep;1(5):299-302. PubMed PMID: 4724951.
- 3: Portnoy HD, Croissant PD. Combined drainage of ventricular and subdural fluid. *Surg Neurol.* 1974 Jan;2(1):41-2. PubMed PMID: 4810454.
- 4: Portnoy HD, Croissant PD. A padded brain retractor. *Surg Neurol.* 1973 Jul;1(4):243. PubMed PMID: 4732189.
- 5: Portnoy HD, Schulte RR, Fox JL, Croissant PD, Tripp L. Anti-siphon and reversible occlusion valves for shunting in hydrocephalus and preventing post-shunt subdural hematomas. *J Neurosurg.* 1973 Jun;38(6):729-38. PubMed PMID: 4710652.
- 6: Portnoy HD, Croissant PD. Cerebrospinal fluid absorption studies in patients with myelomeningocele and hydrocephalus. Preliminary report. *Mod Probl Paediatr.* 1976 Sep 30-Oct 2;18:172-7. PubMed PMID: 1031856.
- 7: Portnoy HD, Croissant PD. Pre- and postoperative cerebrospinal fluid absorption studies in patients with myelomeningocele shunted for hydrocephalus. *Childs Brain.* 1978;4(1):47-64. PubMed PMID: 620620.
- 8: Portnoy HD, Croissant PD. Two unusual complications of a ventriculoperitoneal shunt. Case report. *J*

Neurosurg. 1973 Dec;39(6):775-6. PubMed PMID: 4759665.

9: Portnoy HD, Tripp L, Croissant PD. Hydrodynamics of shunt valves. Childs Brain. 1976;2(4):242-56. PubMed PMID: 991667.

10: Chopp M, Portnoy HD, Schurig R, Croissant P. Clinical dosimetry during cerebral arteriography. Neuroradiology. 1980;20(2):79-81. PubMed PMID: 7422124.

11: Portnoy HD, Croissant PD. Megalencephaly in infants and children. The possible role of increased dural sinus pressure. Arch Neurol. 1978 May;35(5):306-16. PubMed PMID: 646683.

12: Portnoy HD. Letter: Shunt systems for hydrocephalus. J Neurosurg. 1974 Feb;40(2):279. PubMed PMID: 4809130.

13: Portnoy HD. Multipurpose valve shunt. J Neurosurg. 1978 Apr;48(4):667-8. PubMed PMID: 632896.

14: Portnoy HD. Letter: Ventriculo-venous shunting. Surg Neurol. 1975 Aug;4(2):240. PubMed PMID: 1162597.

15: Portnoy HD. New ventricular catheter for hydrocephalic shunts. Technical note. J Neurosurg. 1971 May;34(5):702-3. PubMed PMID: 5090949.

16: Portnoy HD. Letter: Hydrocephalic shunting. Advises study of all valves. Surg Neurol. 1974 May;2(3):215-6. PubMed PMID: 4829038.

17: Portnoy HD. Anti-siphon shunt device: technical details. J Neurosurg. 1985 Nov;63(5):819. PubMed PMID: 4056894.

18: Portnoy HD. Letter: Anti-siphon valve in infantile hydrocephalus. J Neurosurg. 1975 Jun;42(6):743-4. PubMed PMID: 1141975.

19: Portnoy HD. Intracranial pressure and mass lesions. J Neurosurg. 1978 Mar;48(3):489. PubMed PMID: 632873.

20: Portnoy HD. The merits of the antisiphon device. Neurosurgery. 1991 Jan;28(1):167. PubMed PMID: 1994276.

21: Portnoy HD, Croissant PD. A practical method for measuring hydrodynamics of cerebrospinal fluid. Surg Neurol. 1976 May;5(5):273-7. PubMed PMID: 1265641.

22: Portnoy HD, Chopp M, Branch C, Shannon MB. Cerebrospinal fluid pulse waveform as an indicator of cerebral autoregulation. J Neurosurg. 1982 May;56(5):666-78. PubMed PMID: 7069479.

23: Portnoy HD, Chopp M, Branch C. Hydraulic model of myogenic autoregulation and the cerebrovascular bed: the effects of altering systemic arterial pressure. Neurosurgery. 1983 Nov;13(5):482-98. PubMed PMID: 6417555.

24: Chopp M, Portnoy HD, Branch C. Hydraulic model of the cerebrovascular bed: an aid to understanding the volume-pressure test. Neurosurgery. 1983 Jul;13(1):5-11. PubMed PMID: 6877565.

25: Portnoy HD, Branch C, Chopp M. The CSF pulse wave in hydrocephalus. Childs Nerv Syst. 1985;1(5):248-54. PubMed PMID: 4084909.

26: Anile C, Portnoy HD, Branch C. Intracranial compliance is time-dependent. Neurosurgery. 1987

Mar;20(3):389-95. PubMed PMID: 3574615.

27: Portnoy HD, Chopp M. Intracranial fluid dynamics. Interrelationship of CSF and vascular phenomena. 1983. *Pediatr Neurosurg*. 1994;20(1):92-7; discussion 98. PubMed PMID: 8142289.

28: Branch C, Chopp M, Portnoy HD. Fast Fourier transform of individual cerebrospinal fluid pulse waves. *Biomed Sci Instrum*. 1981;17:45. PubMed PMID: 7284533.

29: Portnoy HD, Branch C, Castro ME. The relationship of intracranial venous pressure to hydrocephalus. *Childs Nerv Syst*. 1994 Jan;10(1):29-35. Review. PubMed PMID: 8194060.

30: Chopp M, Portnoy HD. Analysis of intracranial pressure waveforms, comparison to the volume pressure test. *Biomed Sci Instrum*. 1980 Apr 21-22;16:149-58. PubMed PMID: 7407298.

31: Castro ME, Portnoy HD, Maesaka J. Elevated cortical venous pressure in hydrocephalus. *Neurosurgery*. 1991 Aug;29(2):232-8. PubMed PMID: 1886661.

32: Portnoy HD. Subarachnoid hemorrhage and intracranial pulse waves. *J Neurosurg*. 1989 Apr;70(4):661-2. PubMed PMID: 2926509.

33: Portnoy HD, Chopp M. Cerebrospinal fluid pulse wave form analysis during hypercapnia and hypoxia. *Neurosurgery*. 1981 Jul;9(1):14-27. PubMed PMID: 7279168.

34: Portnoy HD. The CSF pulse wave in hydrocephalus. *Childs Nerv Syst*. 1986;2(3):107-8. PubMed PMID: 3779663.

35: Chopp M, Portnoy HD. Systems analysis of intracranial pressure. Comparison with volume-pressure test and CSF-pulse amplitude analysis. *J Neurosurg*. 1980 Oct;53(4):516-27. PubMed PMID: 7420174.

36: Portnoy HD, Benjamin D, Young J, Pince B. Intracranial pressure measurements during whiplash. *Surg Forum*. 1969;20:434-6. PubMed PMID: 4986411.

37: Portnoy HD, Avellanosa A. Carotid aneurysm and contralateral carotid stenosis with successful surgical treatment of both lesions; case report. *J Neurosurg*. 1970 Apr;32(4):476-82. PubMed PMID: 5417946.

38: Portnoy HD, Castro ME. Elevated cortical venous pressure in hydrocephalus. *Neurosurgery*. 1993 Jan;32(1):151. PubMed PMID: 8421549.

39: PORTNOY HD, THOMAS LM, GURDJIAN ES. Pitfalls of electrochemical determination of cerebral metabolism in vivo. *Surg Forum*. 1962;13:430-1. PubMed PMID: 13985613.

40: PORTNOY HD, THOMAS LM, GURDJIAN ES. MEASURING CATION ACTIVITY OF LIVING BRAIN. *Arch Neurol*. 1963 Jun;8:597-607. PubMed PMID: 14065011.

41: PORTNOY HD, THOMAS LM, GURDJIAN ES. Reducing flow artifact when recording from glass electrodes. *J Appl Physiol*. 1962 Jan;17:175-6. PubMed PMID: 14488128.

42: Portnoy HD, Gurdjian ES. Glass electrode measurement of cerebrospinal fluid sodium and potassium. *Clin Chim Acta*. 1965 Oct;12(4):429-35. PubMed PMID: 5847759.

43: Portnoy HD, Gurdjian ES. Glass electrode determination of blood sodium and potassium. *Am J Clin Pathol*. 1966 Mar;45(3):283-9. PubMed PMID: 5932857.

- 44: PORTNOY HD, THOMAS LM, GURDJIAN ES. STORAGE OF BLOOD FOR MEASUREMENT OF PH, PO₂, PCO₂. Clin Chim Acta. 1965 Mar;11:268-9. PubMed PMID: 14339026.
- 45: PORTNOY HD, THOMAS LM, GURDJIAN ES. THE EFFECTS OF RESPIRATORY GASES AND HEMORRHAGE ON CEREBRAL CATIONS. Neurology. 1964 Apr;14:324-37. PubMed PMID: 14138679.
- 46: GURDJIAN ES, PORTNOY HD, HARDY WG, LINDNER DW, THOMAS LM. EVALUATION OF TORTUOSITY OF EXTRACRANIAL VESSELS. Angiology. 1964 Jun;15:261-71. PubMed PMID: 14170582.
- 47: Portnoy HD. Electrocortical activity in SAH. J Neurosurg. 1980 Aug;53(2):272-3. PubMed PMID: 7431068.
- 48: Portnoy HD. Thou shall not bear false witness. Surg Neurol. 1996 May;45(5):492-4. PubMed PMID: 8629254.
- 49: SIMMONS DR, PORTNOY HD, GURDJIAN ES. PACKING WITH MUSCLE OF INTERNAL CAROTID ARTERY FOR ANEURYSM WITH IMMEDIATE OCCLUSION AND SUBSEQUENT ESTABLISHMENT OF FLOW. J Neurosurg. 1963 Nov;20:1000-4. PubMed PMID: 14186090.
- 50: Ausman JI, Portnoy HD, Goodkin R, Dias MS, Campbell R, Shronts C. Malpractice crisis. Surg Neurol. 2003 May;59(5):348-52. PubMed PMID: 12765797.
- 51: Portnoy HD. Anterior cervical discectomy and fusion. Surg Neurol. 2001 Sep;56(3):178-80. Review. PubMed PMID: 11597647.
- 52: MEYER JS, PORTNOY HD. Localized cerebral hypoglycemia simulating stroke; a clinical and experimental study. Neurology. 1958 Aug;8(8):601-14. PubMed PMID: 13566412.
- 53: PORTNOY HD. TRANSIENT "ISCHEMIC" ATTACKS PRODUCED BY CAROTID STENOSIS AND HYPOGLYCEMIA. Neurology. 1965 Sep;15:830-2. PubMed PMID: 14334958.
- 54: Portnoy HD. Novel valves. J Neurosurg Pediatr. 2012 Jul;10(1):75-; author reply 75-7. doi: 10.3171/2012.3.PEDS1245. Epub 2012 Jun 8. PubMed PMID: 22681316.
- 55: Portnoy HD, Ahmad M. Value of the neurological examination, electromyography and myelography in herniated lumbar disc. Mich Med. 1972 May;71(14):429-34. PubMed PMID: 4260586.

From:

<http://www.neurocirugiacontemporanea.com/> - **Neurocirugía Contemporánea** ISSN **1988-2661**

Permanent link:

http://www.neurocirugiacontemporanea.com/doku.php?id=harold_d._portnoy

Last update: **2019/09/26 22:21**

