Mannitol and Outcome in Intracerebral Hemorrhage
Propensity Score and Multivariable Intensive Blood Pressure Reduction in Acute Cerebral Hemorrhage Trial 2 Results

Por: Wang, X (Wang, Xia)\(^1\); Arima, H (Arima, Hisatomi)\(^1\); Yang, J (Yang, Jie)\(^3\); Zhang, SH (Zhang, Shihong)\(^4\); Wu, GJ (Wu, Guojun)\(^8\); Woodward, M (Woodward, Mark)\(^11\); Munoz-Venturelli, P (Munoz-Venturelli, Paula)\(^{1,6}\); Lavados, PM (Lavados, Pablo M.)\(^{6,7}\); Stapf, C (Stapf, Christian)\(^{8,9}\); Robinson, T (Robinson, Thompson)\(^{10,11}\) ...Más

Autoría conjunta: INTERACT2 Investigators

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Resumen

Background and Purpose Mannitol is often used to reduce cerebral edema in acute intracerebral hemorrhage but without strong supporting evidence of benefit. We aimed to determine the impact of mannitol on outcome among participants of the Intensive Blood Pressure Reduction in Acute Cerebral Hemorrhage Trial (INTERACT2).

Methods INTERACT2 was an international, open, blinded end point, randomized controlled trial of 2839 patients with spontaneous intracerebral hemorrhage (<6 hours) and elevated systolic blood pressure allocated to intensive (target systolic blood pressure, <140 mmHg within 1 hour) or guideline-recommended (target systolic blood pressure, <180 mmHg) blood pressure-lowering treatment. Propensity score and multivariable analyses were performed to investigate the relationship between mannitol treatment (within 7 days) and poor outcome, defined by death or major disability on the modified Rankin Scale score (3-6) at 90 days.

Results There was no significant difference in poor outcome between mannitol (n=1533) and nonmannitol (n=993) groups: propensity score-matched odds ratio of 0.90 (95% confidence interval, 0.75-1.09; \(P=0.30\)) and multivariable odds ratio of 0.87 (95% confidence interval, 0.71-1.07; \(P=0.18\)). Although a better outcome was suggested in patients with larger (15 mL) than those with smaller (<15 mL) baseline hematomas who received mannitol (odds ratio, 0.52 [95% confidence interval, 0.35-0.78] versus odds ratio, 0.91 [95% confidence interval, 0.72-1.15]; \(P\) homogeneity <0.03 in propensity score analyses), the association was not consistent in analyses across other cutoff points (10 and 20 mL) and for differing grades of neurological severity. Mannitol was not
associated with excess serious adverse events.

Conclusions Mannitol seems safe but might not improve outcome in patients with acute intracerebral hemorrhage.

Clinical Trial Registration URL: http://www.clinicaltrials.gov. Unique identifier: NCT00716079.

**Palabras clave**
**Palabras clave de autor:** blood pressure; cerebral hemorrhage; clinical trial; mannitol; propensity score

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George Inst Global Hlth, POB M201,Missenden Rd, Camperdown, NSW 2050, Australia.

**Direcciones:**

- [ 1 ] Univ Sydney, Sch Publ Hlth, George Inst Global Hlth, Sydney, NSW 2006, Australia
- [ 2 ] Royal Prince Alfred Hosp, Dept Neurol, Sydney, NSW, Australia
- [ 3 ] Nanjing Med Univ, Nanjing Hosp 1, Dept Neurol, Nanjing, Jiangsu, Peoples R China
- [ 4 ] Sichuan Univ, Dept Neurol, West China Hosp, Chengdu 610064, Peoples R China
- [ 5 ] Hebei Yutian Hosp, Dept Neurol, Tangshan, Peoples R China
- [ 6 ] Univ Desarrollo, Dept Med Clin Alemana, Serv Neurol, Santiago, Chile
- [ 7 ] Univ Chile, Dept Ciencias Neurol, Santiago, Chile
- [ 8 ] Univ Paris Diderot, Sorbonne Paris Cite, Hop Lariboisiere, AP HP,Dept Neurol, Paris, France
- [ 9 ] Univ Paris Diderot, Sorbonne Paris Cite, DHU NeuroVasc Paris Sorbonne, Paris, France
- [ 13 ] Univ Newcastle, John Hunter Hosp, Dept Neurol, Newcastle, NSW 2300, Australia

**Direcciones de correo electrónico:** canderson@georgeinstitute.org.au
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