

187 - References

References

188 The Maudsley® Prescribing Guidelines in Psychiatry CHAPTER 1 References

1. de Leon J, et al. Polydipsia and water intoxication in psychiatric patients: a review of the epidemiological literature. *Biol Psychiatry* 1994; 35:408-419.
2. Patel JK. Polydipsia, hyponatremia, and water intoxication among psychiatric patients. *Hosp Community Psychiatry* 1994; 45:1073-1074.
3. de Leon J. Polydipsia: a study in a long-term psychiatric unit. *Eur Arch Psychiatry Clin Neurosci* 2003; 253:37-39.
4. Siegel AJ, et al. Primary and drug-induced disorders of water homeostasis in psychiatric patients: principles of diagnosis and management. *Harv Rev Psychiatry* 1998; 6:190-200.
5. Kirino S, et al. Relationship between polydipsia and antipsychotics: a systematic review of clinical studies and case reports. *Prog Neuropsychopharmacol Biol Psychiatry* 2020; 96:109756.
6. Siegler EL, et al. Risk factors for the development of hyponatremia in psychiatric inpatients. *Arch Intern Med* 1995; 155:953-957.
7. Madhusoodanan S, et al. Hyponatraemia associated with psychotropic medications: a review of the literature and spontaneous reports. *Adverse Drug React Toxicol Rev* 2002; 21:17-29.
8. Takeda K, et al. Analysis of the frequency and onset time of hyponatremia/syndrome of inappropriate antidiuretic hormone induced by antidepressants or antipsychotics. *Ann Pharmacother* 2022; 56:303-308.
9. Bachu K, et al. Aripiprazole-induced syndrome of inappropriate antidiuretic hormone secretion (SIADH). *Am J Ther* 2006; 13:370-372.
10. Dudeja SJ, et al. Olanzapine induced hyponatraemia. *Ulster Med J* 2010; 79:104-105.
11. Yam FK, et al. Syndrome of inappropriate antidiuretic hormone associated with aripiprazole. *Am J Health Syst Pharm* 2013; 70:2110-2114.
12. Kaur J, et al. Paliperidone inducing concomitantly syndrome of inappropriate antidiuretic hormone, neuroleptic malignant syndrome, and rhabdomyolysis. *Case Rep Crit Care* 2016; 2016:2587963.
13. Lin MW, et al. Aripiprazole-related hyponatremia and consequent valproic acid-related hyperammonemia in one patient. *Aust N Z J Psychiatry* 2017; 51:296-297.
14. Koufakis T. Quetiapine-induced syndrome of inappropriate secretion of antidiuretic hormone. *Case Rep Psychiatry* 2016; 2016:4803132.
15. Chen LC, et al. Polydipsia, hyponatremia and rhabdomyolysis in schizophrenia: a case report. *World J Psychiatry* 2014; 4:150-152.

16. Bakhla AK, et al. A suspected case of olanzapine induced hyponatremia. *Indian J Pharmacol* 2014; 46:441-442.
17. Kane JM, et al. Efficacy and safety of cariprazine in acute exacerbation of schizophrenia: results from an international, phase III clinical trial. *J Clin Psychopharmacol* 2015; 35:367-373.
18. Tibrewal P, et al. Paliperidone-induced hyponatremia. *Prim Care Companion CNS Disord* 2017; 19:16I02088.
19. McNally MA, et al. Olanzapine-induced hyponatremia presenting with seizure requiring intensive care unit admission. *Cureus* 2020; 12:e8212.
20. Sachdeva A, et al. Hyponatremia with olanzapine: a suspected association. *Shanghai Arch Psychiatry* 2017; 29:177-179.
21. Kumar PNS, et al. Hyponatremia secondary to SIADH in a schizophrenic patient treated with Quetiapine. *Asian J Psychiatr* 2018; 35:89-90.
22. Mazhar F, et al. Paliperidone-associated hyponatremia: report of a fatal case with analysis of cases reported in the literature and to the US Food and Drug Administration Adverse Event Reporting System. *J Clin Psychopharmacol* 2020; 40:202-205.
23. Chowdhury W, et al. Management of persistent hyponatremia induced by long-acting injectable risperidone therapy. *Cureus* 2018; 10:e2657.
24. Anil SS, et al. A case report of rapid-onset hyponatremia induced by low-dose olanzapine. *J Family Med Prim Care* 2017; 6:878-880.
25. Kang SG, et al. Addendum: low-dose quetiapine-induced syndrome of inappropriate antidiuretic hormone in a patient with traumatic brain syndrome. *Clin Psychopharmacol Neurosci* 2021; 19:179.
26. Aruachán S, et al. Hyponatraemia associated with the use of quetiapine: case report. *Rev Colomb Psiquiatr* 2020; 49:297-300. Cause of hyponatraemia Antipsychotic drugs implicated Treatment SIADH (serum osmolality low; urine osmolality relatively high) All antipsychotic drugs ■ ■If mild, fluid restriction with careful monitoring of serum sodium. Refer urgently to specialist medical care if Na <125mmol/L. ■ ■Dose reduction of the antipsychotic has been suggested⁴⁵ but evidence to support this strategy is lacking ■ ■Switching to a different antipsychotic drug. There are insufficient data available to guide choice. Be aware that cross-sensitivity may occur (the individual may be predisposed overall and the choice of drug unimportant). ■ ■Consider demeclocycline (see formal prescribing information for details) ■ ■Lithium may be effective⁷ but is a potentially toxic drug (and hyponatraemia predisposes to lithium toxicity) Table 1.42 (Continued)

Schizophrenia and related psychoses CHAPTER 1

27. Zhu X, et al. Rhabdomyolysis and elevated liver enzymes after rapid correction of hyponatremia due to pneumonia and concurrent use of aripiprazole: a case report. *Aust N Z J Psychiatry* 2018; 52:206.
28. Mc Donald D, et al. Extreme hyponatraemia due to primary polydipsia and quetiapine-induced SIAD. *Endocrinol Diabetes Metab Case Rep* 2021; 2021:21-0028.
29. Younes N, et al. Olanzapine induced hyponatremia and rhabdomyolysis. *Clin Case Rep* 2023; 11:e5951.
30. Soenarti S, et al. Chlorpromazine-induced severe hyponatremia in 66 years old patient. *Acta Med Indones* 2023; 55:444-448.
31. Meulendijks D, et al. Antipsychotic-induced hyponatraemia: a systematic review of the published evidence. *Drug Saf* 2010; 33:101-114.
32. Mannesse CK, et al. Hyponatraemia as an adverse drug reaction of antipsychotic drugs: a case-control study in VigiBase. *Drug Saf* 2010; 33:569-578.
33. Falhammar H, et al. Antipsychotics and severe hyponatremia: a Swedish population-based case-control study. *Eur J Intern Med* 2019; 60:71-77.
34. Mazhar F, et al. Hyponatremia following antipsychotic

treatment: in silico pharmacodynamics analysis of spontaneous reports from the US Food and Drug Administration Adverse Event Reporting System Database and an updated systematic review. *Int J Neuropsychopharmacol* 2021; 24:477–489. 35. Atsariyasing W, et al. A systematic review of the ability of urine concentration to distinguish antipsychotic- from psychosis-induced hyponatremia. *Psychiatry Res* 2014; 217:129–133. 36. Letmaier M, et al. Hyponatraemia during psychopharmacological treatment: results of a drug surveillance programme. *Int J Neuropsychopharmacol* 2012; 15:739–748. 37. Serrano A, et al. Safety of long-term clozapine administration. Frequency of cardiomyopathy and hyponatraemia: two cross-sectional, naturalistic studies. *Aust N Z J Psychiatry* 2014; 48:183–192. 38. Sarma S, et al. Severe hyponatraemia associated with desmopressin nasal spray to treat clozapine-induced nocturnal enuresis. *Aust N Z J Psychiatry* 2005; 39:949. 39. Yang HJ, et al. Antipsychotic use is a risk factor for hyponatremia in patients with schizophrenia: a 15-year follow-up study. *Psychopharmacology* 2017; 234:869–876. 40. Adelakun AA, et al. Severe syndrome of inappropriate antidiuretic hormone secretion (SIADH) following the initiation of valbenazine for tardive dyskinesia: a case report. *Cureus* 2024; 16:e58493. 41. Shepshelovich D, et al. Medication-induced SIADH: distribution and characterization according to medication class. *Br J Clin Pharmacol* 2017; 83:1801–1807. 42. Yamamoto Y, et al. Prevalence and risk factors for hyponatremia in adult epilepsy patients: large-scale cross-sectional cohort study. *Seizure* 2019; 73:26–30. 43. Fabrazzo M, et al. The unmasking of hidden severe hyponatremia after long-term combination therapy in exacerbated bipolar patients: a case series. *Int Clin Psychopharmacol* 2019; 34:206–210. 44. Seifert J, et al. Psychotropic drug-induced hyponatremia: results from a drug surveillance program—an update. *J Neural Transm (Vienna)* 2021; 128:1249–1264. 45. Pinkhasov A, et al. Management of SIADH-related hyponatremia due to psychotropic medications – an expert consensus from the Association of Medicine and Psychiatry. *J Psychosom Res* 2021; 151:110654. 46. Josiassen RC, et al. Tolvaptan: a new tool for the effective treatment of hyponatremia in psychotic disorders. *Expert Opin Pharmacother* 2010; 11:637–648. 47. Decaux G, et al. Non-peptide arginine-vasopressin antagonists: the vaptans. *Lancet* 2008; 371:1624–1632. 48. Bhatia MS, et al. Psychogenic polydipsia – management challenges. *Shanghai Arch Psychiatry* 2017; 29:180–183. 49. Zaidi AN. Rhabdomyolysis after correction of hyponatremia in psychogenic polydipsia possibly complicated by ziprasidone. *Ann Pharmacother* 2005; 39:1726–1731. 50. Canuso CM, et al. Clozapine restores water balance in schizophrenic patients with polydipsia-hyponatremia syndrome. *J Neuropsychiatry Clin Neurosci* 1999; 11:86–90. 51. Fujimoto M, et al. Clozapine improved the syndrome of inappropriate antidiuretic hormone secretion in a patient with treatment-resistant schizophrenia. *Psychiatry Clin Neurosci* 2016; 70:469. 52. Spears NM, et al. Clozapine treatment in polydipsia and intermittent hyponatremia. *J Clin Psychiatry* 1996; 57:123–128. 53. Littrell KH, et al. Effects of olanzapine on polydipsia and intermittent hyponatremia. *J Clin Psychiatry* 1997; 58:549. 54. Kawai N, et al. Risperidone failed to improve polydipsia-hyponatremia of the schizophrenic patients. *Psychiatry Clin Neurosci* 2002; 56:107–110. 55. Montgomery JH, et al. Adjunctive quetiapine treatment of the polydipsia, intermittent hyponatremia, and psychosis syndrome: a case report. *J Clin Psychiatry* 2003; 64:339–341. 56. Canuso CM, et al. Does minimizing neuroleptic dosage influence hyponatremia? *Psychiatry Res* 1996; 63:227–229. 57. Nixon RA, et al. Demeclocycline in the prophylaxis of self-induced water intoxication. *Am J Psychiatry* 1982; 139:828–830. 58. Vieweg WV, et al. The use of demeclocycline in the treatment of patients with psychosis, intermittent hyponatremia, and polydipsia (PIP syndrome). *Psychiatr Q* 1988; 59:62–68. 59. Srinivasan S, et al. Psychogenic polydipsia. 2022 (last updated April 2024, last checked May 2024); <https://bestpractice.bmj.com/topics/en-gb/865>. 60. Walter-Ryan WG. Water intoxication, demeclocycline, and antidiuretic hormone. *Am J Psychiatry* 1983; 140:815. 61. Alexander RC, et al.

A double blind, placebo-controlled trial of demeclocycline treatment of polydipsia-hyponatremia in chronically psychotic patients. *Biol Psychiatry* 1991; 30:417-420. 62. Havens TH, et al. Non-antipsychotic pharmacotherapy of psychogenic polydipsia: a systematic review. *J Psychosom Res* 2021; 152:110674. 63. Ahmed SE, et al. Acetazolamide: treatment of psychogenic polydipsia. *Cureus* 2017; 9:e1553. 64. Takagi S, et al. Treatment of psychogenic polydipsia with acetazolamide: a report of 5 cases. *Clin Neuropharmacol* 2011; 34:5-7.

Revision #1

Created 2026-01-04 20:13:04 UTC by Omar Ayman

Updated 2026-01-04 20:13:04 UTC by Omar Ayman