

Pharmakotherapie von Tic-Störungen*

Literaturverzeichnis

Kirsten Müller-Vahl, Hannover

Literatur

- Abuzzahab FE Sr, Anderson FO. Gilles de la Tourette's syndrome; international registry. *Minn Med* 1973;56:492–6
- Abi-Jaoude E, Bhikram T, Parveen F, Levenbach J, et al. A double-blind, randomized, controlled crossover trial of Cannabis in adults with Tourette syndrome. *Cannabis Cannabinoid Res* 2022.
- Aguirregomez M, Pagonabarraga J, Diaz-Manera J, et al. Efficacy of botulinum toxin in severe Tourette syndrome with dystonic tics involving the neck. *Parkinsonism Relat Disord* 2008;14:443–5.
- Akbari M, Jamshidi S, Sheikhi S, Alijani F, et al. Aripiprazole and its adverse effects in the form of impulsive-compulsive behaviors: a systematic review of case reports. *Psychopharmacology (Berl)* 2024;241:209–23.
- Allen AJ, Kurlan RM, Gilbert DL, Coffey BJ, et al. Atomoxetine treatment in children and adolescents with ADHD and comorbid tic disorders. *Neurology* 2005;65:1941–9.
- Awaad Y. Tics in Tourette syndrome: new treatment options. *J Child Neurol* 1999;14:316–9.
- Ballidin J, Berggren U, Eriksson E, Lindstedt G, et al. Guanfacine as an alpha-2-agonist inducer of growth hormone secretion – a comparison with clonidine. *Psychoneuroendocrinology* 1993;18:45–55.
- Bastampillai T, Dhillon R, Mohindra R. Exacerbation of tics secondary to clozapine therapy. *Aust N Z J Psychiatry* 2008;42:1068–70.
- Begum M. Clozapine-induced stuttering, facial tics and myoclonic seizures: a case report. *Aust N Z J Psychiatry* 2005;39:202.
- Begum G, Nkemjika S, Olayinka O, Olupona T, et al. Clozapine response for vocal tics in Schizophrenic patients: a case report with literature review. *Cureus* 2021;13:e14111.
- Ben Djebara M, Worbe Y, Schüpbach M, Hartmann A. Aripiprazole: a treatment for severe coprolalia in „refractory“ Gilles de la Tourette syndrome. *Mov Disord* 2008;23:438–40.
- Bodeck S, Lappe C, Evers S. Tic-reducing effects of music in patients with Tourette's syndrome: Self-reported and objective analysis. *J Neurol Sci* 2015;352:41–7.
- Braun A, Mouradian MM, Mohr E, Fabbrini G, et al. Selective D-1 dopamine receptor agonist effects in hyperkinetic extrapyramidal disorders. *J Neurol Neurosurg Psychiatry* 1989;52:631–5.
- Bruggeman R, Linden C van der, Buitelaar JK, Gericke GS, et al. Risperidone versus pimozide in Tourette's disorder: a comparative double-blind parallel-group study. *J Clin Psychiatry* 2001;62:50–6.
- Brunnauer A, Segmiller FM, Volkamer T, Laux G, et al. Cannabinoids improve driving ability in a Tourette's patient. *Psychiatry Res* 2011;190:382.
- Bruun RD, Budman CL. Risperidone as a treatment for Tourette's syndrome. *J Clin Psychiatry* 1996;57:29–31.
- Caine ED, Polinsky RJ, Kartzinel R, Ebert MH. The trial use of clozapine for abnormal involuntary movement disorders. *Am J Psychiatry* 1979;136:317–20.
- Caprini G, Melotti V. Un grave syndrome ticcosa quarta con haloperidol. *Riv Sper Freniat* 1961;85:191–6.
- Cavanna AE, Nani A. Antiepileptic drugs and Tourette syndrome. *Int Rev Neurobiol* 2013d;112:373–89
- Coffey B, Jankovic J, Claassen DO, Jimenez-Shahed J, et al. Efficacy and safety of fixed-dose Deutetrabenazine in children and adolescents for Tics associated with Tourette syndrome: a randomized clinical trial. *JAMA Netw Open* 2021;4:e2129397.
- Cohen DJ, Young JG, Nathanson JA, Shaywitz BA. Clonidine in Tourette's syndrome. *Lancet* 1979;2:551–3.
- Cohen LS. Quetiapine in treatment-resistant obsessive-compulsive disorder. *J Am Acad Child Adolesc Psychiatry* 2003;42:623–4.
- Connell PH, Corbett JA, Horne DJ, Mathews AM. Drug treatment of adolescent tiqueurs. A double-blind trial of Diazepam and Haloperidol. *Br J Psychiatry* 1967;113:375–81.
- Cui YH, Zheng Y, Yang YP, Liu J, et al. Effectiveness and tolerability of aripiprazole in children and adolescents with Tourette's disorder: a pilot study in China. *J Child Adolesc Psychopharmacol* 2010;20:291–8.
- Cummings DD, Singer HS, Krieger M, Miller TL, et al. Neuropsychiatric effects of guanfacine in children with mild tourette syndrome: a pilot study. *Clin Neuropharmacol* 2002; 25:325–32.
- Davis RE, Osorio I. Childhood caffeine tic syndrome. *Pediatrics* 1998;101:E4.
- De Jonge JL, Cath DC, Balkom AJ van. Quetiapine in patients with Tourette's disorder: an open-label, flexible-dose study. *J Clin Psychiatry* 2007;68:1148–50.
- Debray P, Messerschmitt P, Lonchamp D, Herbault M. L'utilisation du pimozide en pédopsychiatrie. *Nouv Presse Med* 1972;1:2917–8.
- Degrauw RS, Li JZ, Gilbert DL. Body mass index changes and chronic neuroleptic drug treatment for Tourette syndrome. *Pediatr Neurol* 2009;41:183–6.
- Dion Y, Annable L, Sandor P, Chouinard G. Risperidone in the treatment of Tourette syndrome: a double-blind, placebocontrolled trial. *J Clin Psychopharmacol* 2002;22:31–9.
- Du YS, Li HF, Vance A, Zhong YQ, et al. Randomized double-blind multicentre placebocontrolled clinical trial of the clonidine adhesive patch for the treatment of tic disorders. *Aust N Z J Psychiatry* 2008;42:807–13.
- Eapen V, Katona CLE, Barnes TRE, Robertson MM. Sulpiride-induced tardive dyskinesia in a person with Gilles de la Tourette syndrome. *J Psychopharmacol* 1993a;7:290–2.
- Eggers C, Rothenberger A, Berghaus U. Clinical and neurobiological findings in children suffering from tic disease following treatment with tiapride. *Eur Arch Psychiatry Neurol Sci* 1988;237:223–9.
- Farber RH, Angelov A, Kim K, Carmack T, et al. Clinical development of valbenazine for tics associated with Tourette syndrome. *Expert Rev Neurother* 2021;21:393–404.
- Farhat LC, Behling E, Landeros-Weisenberger A, et al. Comparative efficacy, tolerability, and acceptability of pharmacological interventions for the treatment of children, adolescents, and young adults with Tourette's syndrome: a systematic review and network meta-analysis. *Lancet Child Adolesc Health* 2023;7:112–26.
- Fitzgerald KD, Stewart CM, Tawile V, Rosenberg DR. Risperidone augmentation of serotonin reuptake inhibitor treatment of pediatric obsessive compulsive disorder. *J Child Adolesc Psychopharmacol* 1999;9:115–23.
- Flockhart DA, Drici MD, Kerbusch T, Soukhova N, Richard E, Pearle PL, Mahal SK, Babb VJ. Studies on the mechanism of a fatal clarithromycin-pimozide interaction in a patient with Tourette syndrome. *J Clin Psychopharmacol* 2000;20:317–24.
- Fountoulakis KN, Panagiotidis P. Tardive Tourette-like syndrome in a patient treated with paliperidone. *J Neuropsychiatry Clin Neurosci* 2011;23:E35–6.
- Fountoulakis KN, Siamouli M, Kantartzis S, Panagiotidis P, et al. Acute dystonia with low-dosage aripiprazole in Tourette's disorder. *Ann Pharmacother* 2006;40:775–7.

*Modifizierter, gekürzter Nachdruck von Kapitel 15, „Behandlung von Tics: Pharmakotherapie“, aus: Müller-Vahl, KR. Tourette-Syndrom und andere Tic-Störungen im Kindes- und Erwachsenenalter. 3. Auflage. Berlin: Medizinisch Wissenschaftliche Verlagsgesellschaft, 2024.

Prof. Dr. Kirsten R. Müller-Vahl, Klinik für Psychiatrie, Sozialpsychiatrie und Psychotherapie, Zentrum für Seelische Gesundheit, Medizinische Hochschule Hannover, Carl-Neuberg-Str. 1, 30625 Hannover, E-Mail: mueller-vahl.kirsten@mh-hannover.de

40. Fulop G, Phillips RA, Shapiro AK, Gomes JA, et al. ECG changes during haloperidol and pimozide treatment of Tourette's disorder. *Am J Psychiatry* 1987;144:673–5.
41. Gaffney GR, Perry PJ, Lund BC, Bever-Stille KA, et al. Risperidone versus clonidine in the treatment of children and adolescents with Tourette's syndrome. *J Am Acad Child Adolesc Psychiatry* 2002;41:330–6.
42. Ganchar S, Conant-Norville D, Angell R. Treatment of Tourette's syndrome with transdermal clonidine: a pilot study. *J Neuropsychiatry Clin Neurosci* 1990;2:66–9.
43. Ganos C, Sarva H, Kurvits L, Gilbert DL, et al. Clinical practice patterns in tic disorders among movement disorder society members. *Tremor Other Hyperkinet Mov (NY)* 2021;11:43.
44. Garvey MA, Perlmutter SJ, Allen AJ, Hamburger S, et al. A pilot study of penicillin prophylaxis for neuropsychiatric exacerbations triggered by streptococcal infections. *Biol Psychiatry* 1999;45:1564–71.
45. Gerasch S, Kanaan AS, Jakubovski E, Müller-Vahl KR. Aripiprazole improves associated comorbid conditions in addition to tics in adult patients with Gilles de la Tourette syndrome. *Front Neurosci* 2016;10:416.
46. Ghanizadeh A. Systemic review of aripiprazole for the treatment of children and adolescents with tic disorders. *Neurosciences (Riyadh)* 2012;17:200–4.
47. Giakas WJ. Risperidone treatment for a Tourette's disorder patient with comorbid obsessive-compulsive disorder. *Am J Psychiatry* 1995;152:1097–8.
48. Gilbert DL, Batterson JR, Sethuraman G, Sallee FR. Tic reduction with risperidone versus pimozide in a randomized, double-blind, crossover trial. *J Am Acad Child Adolesc Psychiatry* 2004;43:206–14.
49. Gilbert DL, Budman CL, Singer HS, Kurlan R, et al. A D1 receptor antagonist, ecopipam, for treatment of tics in Tourette syndrome. *Clin Neuropharmacol* 2014;37:26–30.
50. Gilbert DL, Dubow JS, Cunniff TM, Wanaski SP, et al. Ecopipam for Tourette syndrome: a randomized trial. *Pediatrics* 2023;151:e2022059574.
51. Gilbert DL, Dure L, Sethuraman G, Raab D, et al. Tic reduction with pergolide in a randomized controlled trial in children. *Neurology* 2003;60:606–11.
52. Gilbert DL, Murphy TK, Jankovic J, Budman CL, et al. Ecopipam, a D1 receptor antagonist, for treatment of tourette syndrome in children: a randomized, placebo-controlled crossover study. *Mov Disord* 2018;33:1272–80.
53. Gilbert DL, Sethuraman G, Sine L, Peters S, et al. Tourette's syndrome improvement with pergolide in a randomized, double-blind, crossover trial. *Neurology* 2000;54:1310–5.
54. Glaze DG, Frost JD Jr, Jankovic J. Sleep in Gilles de la Tourette's syndrome: disorder of arousal. *Neurology* 1983;33:586–92.
55. Goetz CG, Stebbins GT, Thelen JA. Talipexole and adult Gilles de la Tourette's syndrome: double-blind, placebo-controlled clinical trial. *Mov Disord* 1994;9:315–7.
56. Goetz CG, Tanner CM, Wilson RS, Carroll VS, et al. Clonidine and Gilles de la Tourette's syndrome: double-blind study using objective rating methods. *Ann Neurol* 1987a;21:307–10.
57. Gordon M, Cologne SE, Hartlein J, Koller J, et al. A pilot study of levopoda for treatment of tics in children and adults [Poster]. Washington University 2013. URL: f1000research.com/posters/1093664 (Zugriff am 07.03.2023) ((bitte Link checken!))
58. Guan CH, Tsai SJ. Paliperidone in the treatment of Tourette's syndrome with comorbid schizophrenia. *Psychiatry Clin Neurosci* 2013;67:128.
59. Gulisano M, Cali PV, Cavanna AE, Eddy C, et al. Cardio-vascular safety of aripiprazole and pimozide in young patients with Tourette syndrome. *Neurol Sci* 2011;32:1213–7.
60. Guo S, Hu S, Liu H, et al. Efficacy and safety of choudongning capsule in children with Tourette's syndrome of spleen deficiency and phlegm accumulation in phase II clinic. *Zhongcaoyao* 2018;49:891–96.
61. Hasan A, Rothenberger A, Münchau A, Wobrock T, et al. Oral delta 9-tetrahydrocannabinol improved refractory Gilles de la Tourette syndrome in an adolescent by increasing intracortical inhibition: a case report. *J Clin Psychopharmacol* 2010;30:190–2.
62. Hedderick EF, Morris CM, Singer HS. Double-blind, crossover study of clonidine and levetiracetam in Tourette syndrome. *Pediatr Neurol* 2009;40:420–5.
63. Hemming M, Yellowlees PM. Effective treatment of Tourette's syndrome with marijuana. *J Psychopharmacol* 1993;7:389–91.
64. Hirota T, Schwartz S, Correll CU. Alpha-2 agonists for attention deficit/hyperactivity disorder in youth: a systematic review and meta-analysis of monotherapy and add-on trials to stimulant therapy. *J Am Acad Child Adolesc Psychiatry* 2014;53:153–73.
65. Ho CS, Chen HJ, Chiu NC, Shen EY, Lue HC. Short-term sulpiride treatment of children and adolescents with Tourette syndrome or chronic tic disorder. *J Formos Med Assoc* 2009;108:788–93.
66. Hoekstra PJ, Minderera RB, Kallenberg CG. Lack of effect of intravenous immunoglobulins on tics: a double-blind placebocontrolled study. *J Clin Psychiatry* 2004b;65:537–42.
67. Horrigan JP, Barnhill LJ. Guanfacine and secondary mania in children. *J Affect Disord* 1999;54:309–14.
68. Hu S, Ma R, Tian T, et al. Phase III clinical study of changma xifeng tablets in the treatment of children with multiple tics. *Xiandai Yaowu Yu Linchuang* 2014;29:1044–49.
69. Jacobsen FM. Risperidone in the treatment of affective illness and obsessive-compulsive disorder. *J Clin Psychiatry* 1995;56:423–9.
70. Jakubovski E, Müller-Vahl K. Speechlessness in Gilles de la Tourette syndrome: cannabis-based medicines improve severe vocal blocking tics in two patients. *Int J Mol Sci* 2017;18:1739.
71. Jakubovski E, Pisarenko A, Fremer C, Haas M, et al. The CANNA-TICS study protocol: a randomized multi-center double-blind placebo controlled trial to demonstrate the efficacy and safety of nabiximols in the treatment of adults with chronic tic disorders. *Front Psychiatry* 2020;11:575826.
72. Janik P, Szejko N. Aripiprazole in treatment of Gilles de la Tourette syndrome – New therapeutic option. *Neurol Neurochir Pol* 2018;52:84–87.
73. Jankovic J. Botulinum toxin in the treatment of dystonic tics. *Mov Disord* 1994;9:347–9.
74. Jankovic J, Coffey B, Claassen DO, Jimenez-Shahed J, et al. Safety and efficacy of flexible-dose Deutetrabenazine in children and adolescents with Tourette syndrome: a randomized clinical trial. *JAMA Netw Open* 2021;4:e2128204.
75. Jankovic J, Jimenez-Shahed J, Brown L. A randomized, double-blind, placebo-controlled study of topiramate in the treatment of Tourette Syndrome. *J Neurol Neurosurg Psychiatry* 2010b;81:70–3.
76. Jankovic J, Jimenez-Shahed J, Budman C, Coffey B, et al. Deutetrabenazine in tics associated with Tourette syndrome. *Tremor other hyperkinet. Mov (NY)* 2016;6:422.
77. Kanaan AS, Jakubovski E, Müller-Vahl K. Significant tic reduction in an otherwise treatment-resistant patient with Gilles de la Tourette syndrome following treatment with nabiximols. *Brain Sci* 2017b;7:47.
78. Kenney C, Hunter C, Jankovic J. Long-term tolerability of tetrabenazine in the treatment of hyperkinetic movement disorders. *Mov Disord* 2007;22:193–7.
79. Kim BN, Lee CB, Hwang JW, Shin MS, et al. Effectiveness and safety of risperidone for children and adolescents with chronic tic or Tourette disorders in Korea. *J Child Adolesc Psychopharmacol* 2005;15:318–24.
80. King A, Harris P, Fritzell J, Kurlan R. Syncope in children with Tourette's syndrome treated with guanfacine. *Mov Disord* 2006;21:419–20.
81. Kompolti K, Fan W, Leurgans S. Complementary and alternative medicine use in Gilles de la Tourette syndrome. *Mov Disord* 2009;24:2015–9.
82. Kurlan R, Crespi G, Coffey B, Mueller-Vahl K, et al. Pramipexole for TS trial investigators. A multicenter randomized placebo-controlled clinical trial of pramipexole for Tourette's syndrome. *Mov Disord* 2012;27:775–8.
83. Kwak CH, Hanna PA, Jankovic J. Botulinum toxin in the treatment of tics. *Arch Neurol* 2000;57:1190–3.
84. Leckman JF, Detlor J, Harcherik DF, Ort S, et al. Shortand long-term treatment of Tourette's syndrome with clonidine: a clinical perspective. *Neurology* 1985;35:343–51.
85. Leckman JF, Hardin MT, Riddle MA, Stevenson J, et al. Clonidine treatment of Gilles de la Tourette's syndrome. *Arch Gen Psychiatry* 1991;48:324–8.
86. Ledbetter M. Atomoxetine use associated with onset of a motor tic. *J Child Adolesc Psychopharmacol* 2005;15:331–3.
87. Liu Y, Ni H, Wang C, Li L, et al. Effectiveness and tolerability of aripiprazole in children and adolescents with Tourette's disorder: a meta-analysis. *J Child Adolesc Psychopharmacol* 2016;26:436–41.
88. Lotia M, Jankovic J. Botulinum toxin for the treatment of tremor and tics. *Semin Neurol* 2016;36:54–63.
89. Ma R, Hu SY, Tian T, Wei XW, et al. Xifeng zhidong tablet and the placebo control treatment of tic disorder children patients of internal disturbance of Gan-wind with phlegm syndrome: a clinical study. *Zhongguo Zhong Xi Yi Jie He Zhi* 2014;34(4):426–30. Chinese PMID: 24812897
90. Macerollo A, Martino D, Cavanna AE, Gulisano M, et al. Refractoriness to pharmacological treatment for tics: a multicentre European audit. *J Neurol Sci* 2016;366:136–138.
91. Mantel BJ, Meyers A, Tran QY, Rogers S, et al. Nutritional supplements and complementary/alternative medicine in Tourette syndrome. *J Child Adolesc Psychopharmacol* 2004;14:582–9.
92. Marras C, Andrews D, Sime E, Lang AE. Botulinum toxin for simple motor tics: a randomized, double-blind, controlled clinical trial. *Neurology* 2001;56:605–10.
93. Martínez-Granero MA, García-Pérez A, Montañes F. Levetiracetam as an alternative therapy for Tourette syndrome. *Neuropsychiatr Dis Treat* 2010;6:309–16.
94. Martino D, Malaty I, Müller-Vahl K, Nosrattmirshekarlou E, et al. Movement disorders society Tourette syndrome study group. treatment failure in persistent tic disorders: an expert clinicians' consensus-based definition. *Eur Child Adolesc Psychiatry* 2021a

95. Martino D, Schrag A, Anastasiou Z, Apter A, et al. Association of group A streptococcus exposure and exacerbations of chronic tic disorders: a multinational prospective cohort study. *Neurology*. 2021b;96:e1680-e1693.
96. Masi G, Gagliano A, Siracusano R, Berloffo S, et al. Aripiprazole in children with Tourette's disorder and co-morbid attention-deficit/hyperactivity disorder: a 12-week, open-label, preliminary study. *J Child Adolesc Psychopharmacol* 2012;22:120-5.
97. Moretti A. Is botulinum toxin effective and safe for motor and phonic tics in patients affected by Tourette syndrome? A cochrane review summary with commentary. *Dev Med Child Neurol* 2020;62:274-6.
98. Mosley PE, Webb L, Surave A, Hingston L, et al. Tetrahydrocannabinol and cannabidiol in Tourette syndrome. *NEJM Evid* 2023;2(9):EVIDOa2300012.
99. Mukaddes NM, Abali O. Quetiapine treatment of children and adolescents with Tourette's disorder. *J Child Adolesc Psychopharmacol* 2003;13:295-9.
100. Müller-Vahl KR. Tourette-Syndrom und andere Tic-Störungen im Kindes- und Erwachsenenalter. 3. Auflage. Berlin: Medizinisch Wissenschaftliche Verlagsgesellschaft, 2024.
101. Müller-Vahl KR. The treatment of Tourette's syndrome: current opinions. *Expert Opin Pharmacother* 2002;3:899-914.
102. Müller-Vahl KR, Buddensiek N, Geomelas M, Emrich HM. The influence of different food and drink on tics in Tourette syndrome. *Acta Paediatr* 2008a;97:442-6.
103. Müller-Vahl KR, Fremer C, Beals C, Ivkovic J, et al. . Endocannabinoid modulation using monoacylglycerol lipase inhibition in Tourette syndrome: A phase I randomized, placebo-controlled study. *Pharmacopsychiatry* 2022c;55:148-56.
104. Müller-Vahl KR, Fremer C, Beals C, Ivkovic J, et al. Monoacylglycerol lipase inhibition in Tourette syndrome: A 12-week, randomized, controlled study. *Mov Disord* 2021a;36:2413-8.
105. Müller-Vahl KR, Koblenz A, Jöbges M, Kolbe H, et al. Influence of treatment of Tourette syndrome with delta9-tetrahydrocannabinol (delta9-THC) on neuropsychological performance. *Pharmacopsychiatry* 2001;34:19-24.
106. Müller-Vahl KR, Kolbe H, Dengler R. Gilles de la Tourette-Syndrom: Einfluß von Nikotin, Alkohol und Marihuana auf die klinische Symptomatik. *Nervenarzt* 1997b;68:985-9.
107. Müller-Vahl KR, Pisarenko A, Ringlsetter R, Cimpianu CL, et al. The effect of nabiximols on driving ability in adults with chronic tic disorders: results of a substudy analysis of the double-blind, randomized, placebo-controlled CANNA-TICS Trial. *Cannabis Cannabinoid Res*. 2024.
108. Müller-Vahl KR, Pisarenko A, Szejko N, Haas M, et al. A CANNA-TICS: Efficacy and safety of oral treatment with nabiximols in adults with chronic tic disorders – Results of a prospective, multicenter, randomized, double-blind, placebo-controlled, phase IIIb superiority study. *Psychiatry Res* 2023b;323:115135.
109. Müller-Vahl KR, Prevedel H, Theloe K, Kolbe H, et al. Treatment of Tourette syndrome with delta-9-tetrahydrocannabinol (delta 9-THC): no influence on neuropsychological performance. *Neuropsychopharmacology* 2003b;28:384-8.
110. Müller-Vahl KR, Schneider U, Emrich HM. Combined treatment of Tourette syndrome with 69-THC and dopamine receptor antagonists. *J Cannabis Therap* 2002b;2:145-154.
111. Müller-Vahl KR, Schneider U, Koblenz A, Jöbges M, et al. Treatment of Tourette's syndrome with delta 9-tetrahydrocannabinol (THC): a randomized crossover trial. *Pharmacopsychiatry* 2002c;35:57-61.
112. Müller-Vahl KR, Schneider U, Kolbe H, Emrich HM. Treatment of Tourette syndrome with delta-9-Tetrahydrocannabinol. *Am J Psychiatry* 1999;156:495.
113. Müller-Vahl KR, Schneider U, Prevedel H, Theloe K, et al. Delta 9-tetrahydrocannabinol (THC) is effective in the treatment of tics in Tourette syndrome: a 6-week randomized trial. *J Clin Psychiatry* 2003c;64:459-65.
114. Müller-Vahl KR, Szejko N, Verdellen C, Roessner V, et al. European clinical guidelines for Tourette syndrome and other tic disorders: summary statement. *Eur Child Adolesc Psychiatry* 2022b;31:377-382.
115. Murphy ML, Pichichero ME. Prospective identification and treatment of children with pediatric autoimmune neuropsychiatric disorder associated with group A streptococcal infection (PANDAS). *Arch Pediatr Adolesc Med* 2002;156:356-61.
116. Murphy TK, Fernandez TV, Coffey BJ, Rahman O, et al. Extended-release guanfacine does not show a large effect on tic severity in children with chronic tic disorders. *J Child Adolesc Psychopharmacol* 2017;27:762-70.
117. Onofrij M, Paci C, D'Andrea Matteo G, Toma L. Olanzapine in severe Gilles de la Tourette syndrome: a 52-week double-blind crossover study vs. low-dose pimozide. *J Neurol* 2000;247:443-6.
118. Orth M, Amann B, Robertson MM, Rothwell JC. Excitability of motor cortex inhibitory circuits in Tourette syndrome before and after single dose nicotine. *Brain* 2005a;128:1292-300.
119. Pappadopulos E, Woolston S, Chait A, Perkins M, et al. Pharmacotherapy of aggression in children and adolescents: efficacy and effect size. *J Can Acad Child Adolesc Psychiatry* 2006;15:27-39.
120. Párraga HC, Párraga KL, Harris DK, Campbell TS. Abdominal tics during atomoxetine treatment in a child with ADHD: evaluation and differential diagnosis. *CNS Spectr* 2008;13:E1.
121. Párraga HC, Párraga MI, Harris DK. Tic exacerbation and precipitation during atomoxetine treatment in two children with attention deficit hyperactivity disorder. *Int J Psychiatry Med* 2007; 37:415-24.
122. Patel H, Nguyen K, Lehman E, Mainali G, et al. A use of complementary and alternative medicine in children with Tourette syndrome. *J Child Neurol*. 2020;35(8):512-6.
123. Perlmutter SJ, Leitman SF, Garvey MA, Hamburger S, et al. Therapeutic plasma exchange and intravenous immunoglobulin for obsessive-compulsive disorder and tic disorders in childhood. *Lancet* 1999;354:1153-8.
124. Pertwee RG. Pharmacology of cannabinoid CB1 and CB2 receptors. *Pharmacol Ther* 1997;74:129-80.
125. Pichler EM, Kawohl W, Seifritz E, Roser P. Pure delta-9-tetrahydrocannabinol and its combination with cannabidiol in treatment-resistant Tourette syndrome: a case report. *Int J Psychiatry Med*. 2019;54:150-56.
126. Porta M, Maggioni G, Ottaviani F, Schindler A. Treatment of phonic tics in patients with Tourette's syndrome using botulinum toxin type A. *Neurol Sci* 2004;24:420-3.
127. Porta M, Sassi M, Ali F, Cavanna AE, et al. Neurosurgical treatment for Gilles de la Tourette syndrome: the Italian perspective. *J Psychosom Res* 2009b;67:585-90.
128. Pringsheim T, Holler-Managan Y, Okun MS, Jankovic J, et al. Comprehensive systematic review summary: Treatment of tics in people with Tourette syndrome and chronic tic disorders. *Neurology*. 2019a;92:907-15. (Erratum in: *Neurology* 2019;93:415.)
129. Pringsheim T, Okun MS, Müller-Vahl K, Martino D, et al. Practice guideline recommendations summary: Treatment of tics in people with Tourette syndrome and chronic tic disorders. *Neurology*. 2019b;92:896-906.
130. Rath JJ, Tavy DL, Wertenbroek AA, Woerkom TC van, et al. Botulinum toxin type A in simple motor tics: short-term and long-term treatment-effects. *Parkinsonism Relat Disord* 2010;16:478-81.
131. Regeur L, Pakkenberg B, Fog R, Pakkenberg H. Clinical features and long-term treatment with pimozide in 65 patients with Gilles de la Tourette's syndrome. *J Neurol Neurosurg Psychiatry* 1986;49:791-5.
132. Robertson MM. Tourette syndrome, associated conditions and the complexities of treatment. *Brain* 2000;123:425-62.
133. Robertson MM, Gourdie A. Familial Tourette's syndrome in a large British pedigree. Associated psychopathology, severity, and potential for linkage analysis. *Br J Psychiatry* 1990;156:515-21.
134. Roessner V, Eichele H, Stern JS, Skov L, et al. European clinical guidelines for Tourette syndrome and other tic disorders-version 2.0. Part III: pharmacological treatment. *Eur Child Adolesc Psychiatry* 2022;31:425-41.
135. Roessner V, Plessen KJ, Rothenberger A, Ludolph AG, et al. ESSTS Guidelines Group. European clinical guidelines for Tourette syndrome and other tic disorders. Part II: pharmacological treatment. *Eur Child Adolesc Psychiatry* 2011b;20:173-96.
136. Ross MS, Moldofsky H. A comparison of pimozide and haloperidol in the treatment of Gilles de la Tourette's syndrome. *Am J Psychiatry* 1978;135:585-7.
127. Sallee F, Kohegyi E, Zhao J, McQuade R, et al. Randomized, double-blind, placebo-controlled trial demonstrates the efficacy and safety of oral aripiprazole for the treatment of Tourette's disorder in children and adolescents. *J Child Adolesc Psychopharmacol* 2017;27:771-81.
138. Sallee FR, Kurlan R, Goetz CG, Singer H, Scahill L, Law G, Dittman VM, Chappell PB. Ziprasidone treatment of children and adolescents with Tourette's syndrome: a pilot study. *J Am Acad Child Adolesc Psychiatry* 2000; 39:292-9.
139. Sallee FR, Miceli JJ, Tensfeldt T, Robarge L, et al. Single-dose pharmacokinetics and safety of ziprasidone in children and adolescents. *J Am Acad Child Adolesc Psychiatry* 2006;45:720-8.
140. Sallee FR, Nesbitt L, Jackson C, Sine L, et al. Relative efficacy of haloperidol and pimozide in children and adolescents with Tourette's disorder. *Am J Psychiatry* 1997;154:1057-62.
141. Salloway S, Stewart CF, Israeli L, Morales X, Rasmussen S, Blitzer A, Brin MF. Botulinum toxin for refractory vocal tics. *Mov Disord* 1996; 11:746-8.
142. Salvador A, Worbe Y, Delorme C, Coricelli G, et al. Specific effect of a dopamine partial agonist on counterfactual learning: evidence from Gilles de la Tourette syndrome. *Sci Rep*. 2017;7:6292.
143. Sandor P, Musisi S, Moldofsky H, Lang A. Tourette syndrome: a follow-up study. *J Clin Psychopharmacol* 1990;10:197-9.
144. Sandor P, Stephens RJ. Risperidone treatment of aggressive behavior in children with Tourette syndrome. *J Clin Psychopharmacol* 2000;20:710-2.
145. Sandyk R, Awerbuch G. Marijuana and Tourette's Syndrome. *J Clin Psychopharmacol* 1988;8:444-5.
146. Saxena S, Wang D, Bystritsky A, Baxter LR Jr. Risperidone augmentation of SRI treatment for refractory obsessive-compulsive disorder. *J Clin Psychiatry* 1996;57:303-6.

147. Scahill L, Chappell PB, Kim YS, Schultz RT, et al. A placebo-controlled study of guanfacine in the treatment of children with tic disorders and attention deficit hyperactivity disorder. *Am J Psychiatry* 2001;158:1067–74.
148. Scahill L, Leckman JF, Schultz RT, Katsovich L, et al. A placebo-controlled trial of risperidone in Tourette syndrome. *Neurology* 2003;60:1130–5.
149. Schrag AE, Martino D, Wang H, Ambler G, et al. Lack of association of group A streptococcal infections and onset of tics: European multicenter tics in children study. *Neurology* 2022;98:e1175–e1183.
150. Scott BL, Jankovic J, Donovan DT. Botulinum toxin injection into vocal cord in the treatment of malignant coprolalia associated with Tourette's syndrome. *Mov Disord* 1996;11:431–3.
151. Sears J, Patel NC. Development of tics in a thirteen-year-old male following atomoxetine use. *CNS Spectr* 2008;13:301–3.
152. Seignot MJN. Un cas de maladie des tics de Gilles de la Tourette guéri par le R-1625. *Ann Med Psychiatry* 1961;119:578–97.
153. Shapiro AK, Shapiro E. Clonidine and haloperidol in Gilles de la Tourette syndrome. *Arch Gen Psychiatry* 1981;38:1183–5.
154. Shapiro AK, Shapiro E. Controlled study of pimozide vs. Placebo in Tourette's syndrome. *J Am Acad Child Psychiatry* 1984;23:161–73.
155. Shapiro AK, Shapiro E, Bruun RD, Sweet RD. Gilles de la Tourette Syndrome. New York:Raven Press, 1978.
156. Shapiro AK, Shapiro E, Eisenkraft GJ. Treatment of Gilles de la Tourette syndrome with pimozide. *Am J Psychiatry* 1983a;140:1183–6.
157. Shapiro AK, Shapiro E, Eisenkraft GJ. Treatment of Gilles de la Tourette's syndrome with clonidine and neuroleptics. *Arch Gen Psychiatry* 1983b;40:1235–40.
158. Shapiro AK, Shapiro E, Wayne H. Treatment of Tourette's syndrome with haloperidol, review of 34 cases. *Arch Gen Psychiatry* 1973;28:92–7.
159. Shapiro E, Shapiro AK, Fulop G, Hubbard M, et al. Controlled study of haloperidol, pimozide and placebo for the treatment of Gilles de la Tourette's syndrome. *Arch Gen Psychiatry* 1989;46:722–30.
160. Silver AA, Shytle RD, Philipp MK, Wilkinson BJ, et al. Transdermal nicotine and haloperidol in Tourette's disorder: a double-blind placebo-controlled study. *J. Clin. Psychiatry* 2001a; 62:707–14.
161. Singer HS, Brown J, Quaskey S, Rosenberg LA. The treatment of attention-deficit hyperactivity disorder in Tourette's syndrome: a double-blind placebo-controlled study with clonidine and desipramine. *Pediatrics* 1995;95:74–81.
162. Singer HS, Gammon K, Quaskey S. Haloperidol, fluphenazine and clonidine in Tourette syndrome: controversies in treatment. *Pediatr Neurosci* 1985–86;12:71–4.
163. Song PP, Jiang L, Li XJ, Hong SQ, et al. The efficacy and tolerability of the clonidine transdermal patch in the treatment for children with tic disorders: A prospective, open, single-group, self-controlled study. *Front Neurol* 2017;8:32.
164. Spencer TJ, Sallee FR, Gilbert DL, Dunn DW, et al. Atomoxetine treatment of ADHD in children with comorbid Tourette syndrome. *J Atten Disord* 2008;11:470–81.
165. Stein DJ, Bouwer C, Hawkrigde S, Emsley RA. Risperidone augmentation of serotonin reuptake inhibitors in obsessive-compulsive and related disorders. *J Clin Psychiatry* 1997;58:119–22.
166. Stephens RJ, Bassel C, Sandor P. Olanzapine in the treatment of aggression and tics in children with Tourette's syndrome – a pilot study. *J Child Adolesc Psychopharmacol* 2004;14:255–66.
167. Szejko N, Jakubowski E, Fremr C, Kunert K, et al. Delta-9-tetrahydrocannabinol for the treatment of a child with Tourette syndrome – case report. *EJMCR* 2018;2:39–41.
168. Szejko N, Jakubowski E, Fremr C, Müller-Vahl KR. Vaporized cannabis is effective and well-tolerated in an adolescent with Tourette syndrome. *Med Cannabis Cannabinoids* 2019;2:60–63.
169. Szejko N, Saramak K, Lombroso A, Müller-Vahl K. Cannabis-based medicine in treatment of patients with Gilles de la Tourette syndrome. *Neurol Neurochir Pol.* 2022;56:28–38.
170. Szejko N, Worbe Y, Hartmann A, Visser-Vandewalle V, et al. European clinical guidelines for Tourette syndrome and other tic disorders-version 2.0. Part IV: deep brain stimulation. *Eur Child Adolesc Psychiatry* 2022b;31:443–461.
171. The Tourette Syndrome Study Group. Short-term versus longer term pimozide therapy in Tourette's syndrome: a preliminary study. *Neurology* 1999;52:874–7.
172. Thomas N, Swamidhas P, Russell S, Angothu H. Tardive dyskinesia following risperidone treatment in Tourette's syndrome. *Neurol India* 2009;57:94–5.
173. Tirodkar M. Tourette syndrome in Indian Ayurvedic medical practice. *J Dev Behav Pediatr.* 2010;31:173–4.
- 173a. Toru M, Moriya H, Yamamoto K, Shimazono Y. A double-blind comparison of sulpiride with chlordiazepoxide in neurosis. *Folia Psychiatr Neurol Jpn* 1976;30:153–64.
174. Trainor D, Evans L, Bird R. Severe motor and vocal tics controlled with Sativex®. *Australas Psychiatry* 2016;24:541–4.
175. Trillet M, Moreau T, Daléry J, de Villard R, et al. Treatment of Gilles de la Tourette's disease with amisulpride. *Presse Med* 1990;19:175.
176. Trimble MR, Whurr R, Brookes G, Robertson MM. Vocal tics in Gilles de la Tourette syndrome treated with botulinum toxin injections. *Mov Disord* 1998;13:617–9.
177. Vincent DA Jr. Botulinum toxin in the management of laryngeal tics. *J Voice* 2008;22:251–6.
178. Waldon K, Hill J, Termine C, Balottin U, et al. Trials of pharmacological interventions for Tourette syndrome: a systematic review. *Behav Neurol.* 2013;26:265–73.
179. Wang LJ, Chou WJ, Chou MC, Gau SS. The effectiveness of aripiprazole for tics, social adjustment, and parental stress in children and adolescents with Tourette's disorder. *J Child Adolesc Psychopharmacol.* 2016 Jun;26(5):442–8.
180. Wang S, Xiong Z, Cui Y, Fan F, et al. Placebo and nocebo responses in pharmacological trials of tic disorders: a meta-analysis. *Mov Disord.* 2024 Jan 21.
181. Weisman H, Qureshi IA, Leckman JF, Scahill L, et al. Systematic review: pharmacological treatment of tic disorders—efficacy of antipsychotic and alpha-2 adrenergic agonist agents. *Neurosci Biobehav Rev* 2013;37:1162–71.
182. Wenzel C, Kleimann A, Bokemeyer S, Müller-Vahl KR. Aripiprazole for the treatment of Tourette syndrome: a case series of 100 patients. *J Clin Psychopharmacol.* 2012;32:548–50.
183. Whittington C, Pennant M, Kendall T, Glazebrook C, et al. Practitioner review: Treatments for Tourette syndrome in children and young people – a systematic review. *J Child Psychol Psychiatry* 2016;57:988–1004.
184. Wijemanne S, Wu LJ, Jankovic J. Long-term efficacy and safety of fluphenazine in patients with Tourette syndrome. *Mov Disord* 2014;29:126–30.
185. Winter C, Heinz A, Kupsch A, Ströhle A. Aripiprazole in a case presenting with tourette syndrome and obsessive-compulsive disorder. *J Clin Psychopharmacol* 2008;28:452–4.
186. Yamamuro K, Makinodan M, Ota T, Iida J, et al. Paliperidone extended release for the treatment of pediatric and adolescent patients with Tourette's disorder. *Ann Gen Psychiatry* 2014;13:13.
187. Yang C, Hao Z, Zhang LL, Zhu CR, et al. Comparative efficacy and safety of antipsychotic drugs for tic disorders: A systematic review and bayesian network meta-analysis. *Pharmacopsychiatry.* 2019;52:7–15.
188. Yang CS, Zhang LL, Zeng LN, Huang L, et al. Topiramate for Tourette's syndrome in children: a meta-analysis. *Pediatr Neurol* 2013;49:344–50.
189. Yoo HK, Joung YS, Lee JS, et al. A multicenter, randomized, double-blind, placebo-controlled study of aripiprazole in children and adolescents with Tourette's disorder. *J Clin Psychiatry* 2013;74:e772–80.
190. Yu L, Yan J, Wen F, Wang F, et al. Revisiting the efficacy and tolerability of topiramate for tic disorders: a meta-analysis. *J Child Adolesc Psychopharmacol* 2020b;30:316–25.
191. Zhao L, Li AY, Lv H, Liu FY, et al. Traditional chinese medicine ningdong granule: the beneficial effects in Tourette's 307 disorder. *J Int Med Res* 2010;38:169–75.
192. Zheng W, Li XB, Xiang YQ, Zhong BL, et al. Aripiprazole for Tourette's syndrome: a systematic review and meta-analysis. *Hum Psychopharmacol* 2016a;31:11–8.
193. Zheng Y, Zhang ZJ, Han XM, Ding Y, et al. A proprietary herbal medicine (5-Ling Granule) for Tourette syndrome: a randomized controlled trial. *J Child Psychol Psychiatry.* 2016b;57:74–83.