

- Study of Infection. *J Infection* 36 suppl 1:31-8, 1998.
- 19) Levin et al. Development of resistance to acyclovir during chronic infection with the Oka vaccine strain of varicella-zoster virus, in an immunosuppressed child. *J Infec Dis* 188: 954-9, 2003.
- 20) 神谷斎.他 アシクロビル顆粒剤の健康小児水痘に対する治療薬としての検討 感染症学雑誌 68:234-241, 1994.
- 21) 浅野喜造 塩酸バラシクロビル下流の小児水痘に対する臨床評価 臨床医薬 23: 183-200, 2007.
- 22) CDC. A new product (VarizIG) for postexposure prophylaxis of varicella available under an investigational new drug application expanded access protocol. *MMWR* 55:209-10, 2006.
- 23) 外山望、宮崎県皮膚科医会：宮崎県下における帯状疱疹の集計（1997年～2000年）西日本皮膚 66 : 631. 2004 : 第101回宮崎地方会
- 24) Ueno-Yamamoto et al. The changing seroepidemiology of varicella in Japan: 1977-1981 and 2001-2005. *Ped Infec Dis J*. 印刷中
- 25) 特集 *IASR* 25:318-20, 2004.
- 26) 多屋馨子.他 水痘・帯状疱疹・ムンプス入院例に関する検討～全国アンケート調査第二報、第10回日本ワクチン学会学術集会
- 27) 浅野喜造 水痘帯状疱疹ウイルス感染症及び水痘ワクチンの臨床的研究 岡部班平成20年度分担研究報告書
- 28) 浅野喜造 水痘帯状疱疹ウイルス感染症及び水痘ワクチンの臨床的研究 岡部班平成15年度分担研究報告書
- 29) Thiry et al. Economic evaluations of varicella vaccination programmes: a review of the literature. *Pharmacoeconomics* 21:13-38, 2003.
- 30) Rozenbaum et al. Cost-effectiveness of varicella vaccination programs: an update of the literature. *Expert Rev Vaccines* 7:753-82, 2008.
- 31) Zhou et al. An economic analysis of the universal varicella vaccination program in the United States. *J Infect Dis* 197 Suppl 2:S156-64, 2008.
- 32) Banz et al. Economic evaluation of varicella vaccination in Swiss children and adolescents. *Hum Vaccin* 5:847-57, 2009.
- 33) 菅原民枝.他 水痘ワクチン定期接種化の費用対効果分析 感染症誌 80:212-9, 2006.
- 34) 山本久美 我が国における水痘ワクチン導入前後での血清疫学の変化と自治体における公費助成の取り組み 東北大学学位論文 2010.
- 35) 大日康史.他 水痘予防接種に対する公費補助制度の政策評価 感染症学誌 84(2): 159-64, 2010.
- 36) 安井良則.他 堺市の保育施設における水痘、ムンプスワクチンの定期接種化に向けた検討 岡部班平成15-17年度総合報告書.
- 37) 越田理恵.他 地域での流行状況、保育所内でのアウトブレイク、医療機関や保護者のワクチン接種に対する認識より、今後のワクチン行政を考える 岡部班平成15-17年度総合報告書.
- 38) Marshall et al. Varicella immunisation practice: Implications for provision of a recommended, non-funded vaccine. *J Paediatr Child Health* 45:297-303, 2009.
- 39) WHO. Requirements for varicella vaccine, WHO technical report series 725, 1995.
- 40) Weekly Epidemiological Record 73: 241-248, 1998.
- 41) Meyer et al. Varicella mortality: trends before vaccine licensure in the United States, 1970-1994. *J Infec Dis* 182:383-90, 2000.
- 42) Ratner. Varicella-related hospitalizations in the vaccine era. *Ped Infec Dis J* 21:927-31, 2002.
- 43) Galil et al. Hospitalizations for varicella in the United States, 1988 to 1999. *Ped Infec Dis J* 21:931-4, 2002.
- 44) Seward et al. Varicella disease after introduction of varicella vaccine in the United States, 1995-2000. *JAMA* 287:606-11, 2002.
- 45) CDC. National, state, and local area vaccination coverage among children aged 19-35 months-United States, 2008. *MMWR* 58(33):921-6, 2009.
- 46) Guris et al. Changing varicella epidemiology in active surveillance sites-United States, 1995-2005. *J Infec Dis* 197 suppl 2:S71-75, 2008.
- 47) Patel et al. Reduction in pediatric hospitalizations for varicella-related invasive group A streptococcal infections in the varicella vaccine era. *J Pediatr* 144: 68-74, 2004.
- 48) Davis et al. Decline in varicella-related hospitalizations and expenditures for children and adults after introduction of varicella vaccine in the United States. *Pediatrics* 114:786-92, 2004.
- 49) Shah et al. Decline in varicella-related ambulatory visits and hospitalizations in the United States since routine immunization against varicella. *Ped Infec Dis J* 29:199-204, 2010.
- 50) Ngyuen et al. Decline in mortality due to varicella after implementation of varicella vaccination in the United States. *N Eng J Med* 352:450-8, 2005.
- 51) Zhou et al. Impact of varicella vaccination on health care utilization. *JAMA* 294(7):797-802, 2005.
- 52) Kwong et al. Impact of varicella vaccination on health care outcomes in Ontario, Canada: effect of a publicly funded program? *Vaccine* 26:6006-12, 2008.
- 53) Bonanni et al. Varicella vaccination in Europe-taking the practical approach. *BMC Med* 7: 26, 2009.
- 54) Siedler & Arndt. Impact of the routine varicella vaccination programme on varicella epidemiology in Germany. *Euro Surveill* 15(13) 2010 Apr 1.
- 55) Giannmanco et al. Universal varicella vaccination in the Sicilian paediatric population: rapid uptake of the vaccination programme and morbidity trends over five years. *Euro Surveill* 14(35) 2009 Sep 3.
- 56) Quian et al. Impact of universal varicella vaccination on 1-year-olds in Uruguay: 1997- 2005. *Arch Dis Child* 93:845-50, 2008.
- 57) Almuneef et al. Chickenpox complications in Saudi Arabia: Is it time for routine varicella vaccination. *Int J Infect Dis* 10:156-61, 2006.
- 58) Uduwan et al. Pattern of varicella and associated complications in children in Unite Arab Emirates: 5-year descriptive study. *East Mediterr Health J* 15:800-6, 2009.
- 59) Maherash & Somekh. Hospitalization for varicella in central Israel. *Acta Paediatr* 88: 1279-83, 1999.
- 60) Kim et al. Seroprevalence rate after one dose of varicella vaccine in infants. *J Infect* 印刷中
- 61) Lin et al. Disease burden and epidemiological characteristics of varicella in

- Taiwan from 2000 to 2005. *J Microbiol Immunol Infect* 42:5-12. 2009.
- 62) Macartney & Burgess. Varicella vaccination in Australia and New Zealand. *J Infect Dis* 197 Suppl 2:S191-5. 2008.
- 63) Takahashi. Live vaccine used to prevent the spread of varicella in children in hospital. *Lancet* 2:1288-90. 1974.
- 64) 神谷齊 水痘ワクチンのウイルス力価の現状と安定供給法 臨床とウイルス 36: 2: S86. 2008.
- 65) 小児期の予防接種モニタリングシステム構築の試み-平成17年度アンケートによる接種率・罹患率試行調査のまとめ 日本医事新報 4283. 64-69. 2006.
- 66) Takahashi et al. Enhancement of immunity against VZV by giving live varicella vaccine to the elderly assessed by VZV skin test and IAHA, gpELISA antibody assay. *Vaccine* 21: 3845-53. 2003.
- 67) Oxman et al. A vaccine to prevent herpes zoster and postherpetic neuralgia in older adults. *N Engl J Med* 352:2271-84. 2005.
- 68) 山西弘一 帯状疱疹ワクチン開発のための疫学研究 厚生労働科学研究費補助金政策創薬総合研究事業平成20年度報告書
- 69) 四国新聞社 12月10日記事
- 70) Hata et al. Use of an inactivated varicella vaccine in recipients of hematopoietic-cell transplants. *N Engl J Med* 347(1):26-34. 2002.
- 71) Hayakawa et al. Biologic and biophysical markers of a live varicella vaccine strain (Oka): identification of clinical isolates from vaccine recipients. *J Infect Dis* 149:956-63. 1984.
- 72) Moffat et al. Attenuation of the vaccine Oka strain of varicella-zoster virus and role of glycoprotein C in alphaherpesvirus virulence demonstrated in the SCID-hu mouse. *J Virol* 72:965-74. 1998.
- 73) Asano et al. Viral replication and immunologic responses in children naturally infected with varicella-zoster virus and in varicella vaccine recipients. *J Infect Dis* 152:863-8. 1985.
- 74) Gomi et al. Comparison of the complete DNA sequences of the Oka varicella vaccine and its parental virus. *J Virol* 76: 11447-59. 2002.
- 75) 井上直樹 動物由来物質を除いた水痘ワクチン製造法の開発に関する研究：水痘ワクチンの品質管理 厚生労働科学研究費補助金創薬基盤推進研究事業（主任研究者 田代眞人）平成17-19年度総合報告書
- 76) Takahashi. Effectiveness of live varicella vaccine. *Expert Opin Biol Ther* 4:199-216. 2004.
- 77) Ozaki et al. Experience with live attenuated varicella vaccine (Oka strain) in healthy Japanese subjects: 10-year survey at pediatric clinic. *Vaccine* 18:2375-80. 2000.
- 78) Seward et al. Varicella vaccine effectiveness in the US vaccination program: a review. *J Infect Dis* 197 Suppl 2:S82-9. 2008
- 79) Schmid & Jumaan. Impact of varicella vaccine on varicella-zoster virus dynamics. *Clin Microbiol Rev* 23:202-17. 2010.
- 80) 安井良則他 保育施設における水痘ワクチン接種率と水痘の流行状況-堺市 IASR 25:324-326. 2004.
- 81) 神谷齊 水痘ワクチン 日本臨床 64:321-5. 2006.
- 82) Bernstein et al. Clinical survey of natural varicella compared with breakthrough varicella after immunization with live attenuated Oka/Merck varicella vaccine. *Pediatrics* 92:833-7. 1993.
- 83) 水痘ワクチン前方視的調査全国集計（第7報）厚生省予防接種研究班、予防接種リサーチセンター 平成10年7月
- 84) 神谷齊 水痘、流行性耳下腺炎、肺炎球菌感染症の臨床とワクチンに関する研究 岡部班平成17年度分担研究報告書
- 85) Galil et al. Younger age at vaccination may increase risk of varicella vaccine failure. *J Infect Dis* 186:102-5. 2002.
- 86) Vazquez et al. Effectiveness over time of varicella vaccine. *JAMA* 291:851-5. 2004.
- 87) Black et al. Lack of association between age at varicella vaccination and risk of breakthrough varicella, within the Northern California Kaiser Permanente Medical Care Program. *J Infect Dis* 197 suppl 2 S139-41. 2008.
- 88) Bayer et al. Meta-analysis of vaccine effectiveness in varicella outbreaks. *Vaccine* 25: 6655-60. 2007.
- 89) Li et al. Inverse relationship between six week postvaccination varicella antibody response to vaccine and likelihood of long term breakthrough infection. *Pediatr Infect Dis J* 21:337-42. 2002.
- 90) 尾崎隆男 水痘ワクチン 小児科 45:876-82. 2004.
- 91) Breuer et al. Use and limitations of varicella-zoster virus-specific serological testing to evaluate breakthrough disease in vaccinees and to screen for susceptibility to varicella. *J Infect Dis* 197 suppl 2 S147-51. 2008.
- 92) Kumagai et al. Gelatin-specific humoral and cellular immune responses in children with immediate- and nonimmediate-type reactions to live measles, mumps, rubella, and varicella vaccines. *J Allergy Clin Immunol* 100:130-4. 1997.
- 93) 阪大微研会市販後調査成績
- 94) Ozaki et al. Safety and immunogenicity of gelatin-free varicella vaccine in epidemiological and serological studies in Japan. *Vaccine* 23:1205-8. 2005.
- 95) Chaves et al. Safety of varicella vaccine after licensure in the United States: experience from reports to the vaccine adverse event reporting system, 1995-2005. *J Infect Dis* 197: S170-7. 2008.
- 96) Galea et al. The safety profile of varicella vaccine: a 10-year review. *J Infect Dis* 197 S165-9. 2008.
- 97) Gelb & Dohner. Varicella-zoster virus-induced transformation of mammalian cells in vitro. *J Invest Dermatol* 83(1 Suppl):77s-81s. 1984.
- 98) Wrensch et al. Prevalence of antibodies to four herpesviruses among adults with glioma and controls. *Am J Epidemiol* 154:161-5. 2001.
- 99) Menegaux et al. Day care, childhood infections, and risk of neuroblastoma. *Am J Epidemiol* 159:843-51. 2004.
- 100) Neves et al. Detection and quantitative analysis of human herpesvirus in pilocytic astrocytoma. *Brain Research* 1221:108-14. 2008.
- 101) Asano et al. Experience and reason: twenty-year follow-up of protective immunity of the Oka strain live varicella vaccine. *Pediatrics* 94:524-6. 1994.
- 102) Kuter et al. Ten year follow-up of healthy children who received one or two

- injections of varicella vaccine. *Ped Infec Dis J* 23:132-7. 2004.
- 103)Shinefield et al. Evaluation of a quadrivalent measles, mumps, rubella and varicella vaccine in healthy children. *Ped Infec Dis J* 24:665-9. 2005.
- 104)Watson et al. Humoral and cell-mediated immune responses in healthy children after one or two doses of varicella vaccine. *Clin Infec Dis* 20:316-9. 1995.
- 105)宮川広実他 水痘ワクチン 2回接種の有効性 IASR 25:329-30. 2004.
- 106)Chaves et al. Loss of vaccine-induced immunity to varicella over time. *N Engl J Med* 356:1121-9. 2007.
- 107)CDC. National, state, and local area vaccination coverage among adolescents aged 13-17 years-United States. 2008. MMWR 58(36):997-1001. 2009.
- 108)Sadzot-Delvaux et al. Varicella vaccination in Japan, South Korea, and Europe. *J Infec Dis* 197:S185-90. 2008.
- 109)Sengupta et al. Varicella vaccination in Europe: are we ready for a universal childhood programme? *Eur J Pediatr* 167:47-55. 2008.
- 110)Gould et al. An outbreak of varicella in elementary school children with two-dose varicella vaccine recipients-Arkansas. 2006. *Pediatr Infect Dis J* 28:678-81. 2009.
- 111)Nguyen et al. Incremental effectiveness of second dose varicella vaccination for outbreak control at an elementary school in Philadelphia, Pennsylvania. 2006. *Ped Infec Dis J* 印刷中.
- 112)成人感染が問題となりつつある小児感染症への対応に関する研究 厚生労働科学研究費補助金新型インフルエンザ等新興・再興感染症研究事業（研究代表者 加藤達夫）平成21年度総括報告書
- 113)Shinefield et al. Vaccination with measles, mumps and rubella vaccine and varicella vaccine: safety, tolerability, immunogenicity, persistence of antibody and duration of protection against varicella in healthy children. *Ped Infec Dis J* 21:555-61. 2002.
- 114)White et al. Measles, mumps, rubella, and varicella combination vaccine: safety and immunogenicity alone and in combination with other vaccines given to children. Measles, Mumps, Rubella, Varicella Vaccine Study Group. *Clin Infec Dis* 24:925-31. 1997.
- 115)Marin et al. Prevention of varicella: recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 56 RR-4. 2007.
- 116)CDC & ACIP. Update: recommendations from the Advisory Committee on Immunization Practices (ACIP) regarding administration of combination MMRV vaccine. MMWR 57: 258-60. 2008.
- 117)Klein et al. Measles-mumps-rubella-varicella combination vaccine and the risk of febrile seizures. *Pediatrics* 2010. 印刷中
- 118)Jacobsen et al. Observational safety study of febrile convulsion following first dose MMRV vaccination in a managed care setting. *Vaccine* 27:4656-61. 2009.
- 119)Marin et al. Use of combination measles, mumps, rubella, and varicella vaccine: recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 59:RR-3. 2010.
- 120)Takahashi et al. A live varicella vaccine. *Adv Exp Med Biol* 278:49-58. 1990.
- 121)高橋理明 水痘ワクチン ワクチンハンドブック. 202-6. 1994.
- 122)Hardy et al. The incidence of zoster after immunization with live attenuated varicella vaccine. A study in children with leukemia. Varicella Vaccine Collaborative Study Group. *N Engl J Med* 325:1545-50. 1991.
- 123)Quinlivan & Breuer. Molecular studies of varicella zoster virus. *Rev Med Virol* 16: 225-50. 2006.
- 124)Grinfeld et al. Genome-wide reduction in transcriptomal profiles of varicella-zoster virus vaccine strains compared with parental Oka strain using long oligonucleotide microarrays. *Virus Genes* 38:19-29. 2009.
- 125)Jumaan et al. Incidence of herpes zoster, before and after varicella-vaccination-associated decreases in the incidence of varicella, 1992-2002. *J Infec Dis* 191:2002-7. 2005.
- 126)Insinga et al. The incidence of herpes zoster in a United States administrative database. *J Gen Intern Med* 20:748-53. 2005.
- 127)Yih et al. The incidence of varicella and herpes zoster in Massachusetts as measured by the Behavioral Risk Factor Surveillance System (BRFSS) during a period of increasing varicella vaccine coverage, 1998-2003. *BMC Public Health* 5:68. 2005.
- 128)Goldman. Cost-benefit analysis of universal varicella vaccination in the U.S. taking into account the closely related herpes-zoster epidemiology. *Vaccine* 23:3349-55. 2005.

#### <作成>

国立感染症研究所ウイルス第一部 倉根 一郎 (部長)  
同 ウイルス第一部 井上 直樹 (室長) (取りまとめ)  
同 感染症情報センター 多屋 鑑子 (室長)

#### <協力>

北海道大学人獣共通感染症リサーチセンター 浅野 喜造 (特任教授)  
藤田保健衛生大学医学部小児科 吉川 哲史 (教授)  
予防接種推進専門協議会