

REFERENCES

1. Anger, J.T., Gilbert, B.R., and Goldstein, M. (2003). Cryopreservation of sperm: indications, methods and results. *J. Urol.* *170*, 1079–1084.
2. Ataya, K., Rao, L.V., Lawrence, E., and Kimmel, R. (1995). Luteinizing hormone-releasing hormone agonist inhibits cyclophosphamide-induced ovarian follicular depletion in rhesus monkeys. *Biol. Reprod.* *52*, 365–372.
3. Backhus, L.E., Kondapalli, L.A., Chang, R.J., Coutifaris, C., Kazer, R., and Woodruff, T.K. (2007). Oncofertility consortium consensus statement: guidelines for ovarian tissue cryopreservation. *Cancer Treat. Res.* *138*, 235–239.
4. Badawy, A., Elnashar, A., El-Ashry, M., and Shahat, M. (2009). Gonadotropin-releasing hormone agonists for prevention of chemotherapy-induced ovarian damage: prospective randomized study. *Fertil. Steril.* *91*, 694–697.
5. Baird, D.T., Webb, R., Campbell, B.K., Harkness, L.M., and Gosden, R.G. (1999). Long-term ovarian function in sheep after ovariectomy and transplantation of autografts stored at -196 C. *Endocrinology* *140*, 462–471.
6. Barekati, Z., Gourabi, H., Valojerdi, M.R., and Yazdi, P.E. (2008). Previous maternal chemotherapy by cyclophosphamide (Cp) causes numerical chromosome abnormalities in preimplantation mouse embryos. *Reprod. Toxicol.* *26*, 278–281.
7. Barr, R.D., Clark, D.A., and Booth, J.D. (1993). Dyspermia in men with localized Hodgkin's disease. A potentially reversible, immune-mediated disorder. *Med. Hypotheses* *40*, 165–168.
8. Bath, L.E., Critchley, H.O., Chambers, S.E., et al. (1999). Ovarian and uterine characteristics after total body irradiation in childhood and adolescence: response to sex steroid replacement. *Br J Obstet Gynaecol.* *106*, 1265–72.
9. Bedaiwy, M.A., El-Nashar, S.A., El Saman, A.M., Evers, J.L.H., Sandadi, S., Desai, N., and Falcone, T. (2008). Reproductive outcome after transplantation of ovarian tissue: a systematic review. *Hum. Reprod. Oxf. Engl.* *23*, 2709–2717.
10. Bedaiwy, M.A., Abou-Setta, A.M., Desai, N., Hurd, W., Starks, D., El-Nashar, S.A., Al-Inany, H.G., and Falcone, T. (2011). Gonadotropin-releasing hormone analog cotreatment for preservation of ovarian function during gonadotoxic chemotherapy: a systematic review and meta-analysis. *Fertil. Steril.* *95*, 906–914.e1-4.
11. Bedoschi, G., and Oktay, K. (2013). Current approach to fertility preservation by embryo cryopreservation. *Fertil. Steril.* *99*, 1496–1502.
12. Behringer, K., Thielen, I., Mueller, H., Goergen, H., Eibl, A.D., Rosenbrock, J., Halbsguth, T., Eichenauer, D.A., Fuchs, M., Reiners, K.S., et al. (2012). Fertility and gonadal function in female survivors after treatment of early unfavorable

- Hodgkin lymphoma (HL) within the German Hodgkin Study Group HD14 trial. *Ann. Oncol. Off. J. Eur. Soc. Med. Oncol. ESMO* 23, 1818–1825.
13. Block, E. (1952). Quantitative morphological investigations of the follicular system in women; variations at different ages. *Acta Anat. (Basel)* 14, 108–123.
 14. Blumenfeld, Z., Avivi, I., Eckman, A., Epelbaum, R., Rowe, J.M., and Dann, E.J. (2008). Gonadotropin-releasing hormone agonist decreases chemotherapy-induced gonadotoxicity and premature ovarian failure in young female patients with Hodgkin lymphoma. *Fertil. Steril.* 89, 166–173.
 15. Boiso, I., Martí, M., Santaló, J., Ponsá, M., Barri, P.N., and Veiga, A. (2002). A confocal microscopy analysis of the spindle and chromosome configurations of human oocytes cryopreserved at the germinal vesicle and metaphase II stage. *Hum. Reprod. Oxf. Engl.* 17, 1885–1891.
 16. Bokemeyer, C., Schmoll, H.J., van Rhee, J., Kuczyk, M., Schuppert, F., and Poliwoda, H. (1994). Long-term gonadal toxicity after therapy for Hodgkin's and non-Hodgkin's lymphoma. *Ann. Hematol.* 68, 105–110.
 17. Broekmans, F.J., Kwee, J., Hendriks, D.J., Mol, B.W., and Lambalk, C.B. (2006). A systematic review of tests predicting ovarian reserve and IVF outcome. *Hum. Reprod. Update* 12, 685–718.
 18. Bruin, J.P. de, Bovenhuis, H., Noord, P.A.H. van, Pearson, P.L., Arendonk, J.A.M. van, Velde, E.R. te, Kuurman, W.W., and Dorland, M. (2001). The role of genetic factors in age at natural menopause. *Hum. Reprod.* 16, 2014–2018.
 19. de Bruin, J.P., Dorland, M., Spek, E.R., Posthuma, G., van Haaften, M., Looman, C.W.N., and te Velde, E.R. (2004). Age-related changes in the ultrastructure of the resting follicle pool in human ovaries. *Biol. Reprod.* 70, 419–424.
 20. Chen, H., Li, J., Cui, T., and Hu, L. (2011). Adjuvant gonadotropin-releasing hormone analogues for the prevention of chemotherapy induced premature ovarian failure in premenopausal women. *Cochrane Database Syst. Rev.* CD008018.
 21. Chian, R.-C., Huang, J.Y.J., Tan, S.L., Lucena, E., Saa, A., Rojas, A., Ruvalcaba Castellón, L.A., García Amador, M.I., and Montoya Sarmiento, J.E. (2008). Obstetric and perinatal outcome in 200 infants conceived from vitrified oocytes. *Reprod. Biomed. Online* 16, 608–610.
 22. Chiarelli, A.M., Marrett, L.D., and Darlington, G. (1999). Early menopause and infertility in females after treatment for childhood cancer diagnosed in 1964–1988 in Ontario, Canada. *Am. J. Epidemiol.* 150, 245–254.
 23. Cibula, D., Henzl, M.R., and Živný, J. (2002). *Základy gynekologické endokrinologie [Basics of Gynecological Endocrinology]* (Grada Publishing).
 24. Ciotti, P.M., Porcu, E., Notarangelo, L., Magrini, O., Bazzocchi, A., and Venturoli, S. (2009). Meiotic spindle recovery is faster in vitrification of human oocytes compared to slow freezing. *Fertil. Steril.* 91, 2399–2407.
 25. Cobo, A., Bellver, J., Domingo, J., Pérez, S., Crespo, J., Pellicer, A., and Remohí, J. (2008). New options in assisted reproduction technology: the Cryotop method of oocyte vitrification. *Reprod. Biomed. Online* 17, 68–72.

26. Cook, C.L., Siow, Y., Taylor, S., and Fallat, M.E. (2000). Serum müllerian-inhibiting substance levels during normal menstrual cycles. *Fertil. Steril.* 73, 859–861.
27. Crha, I., Ventruba, P., Mardesic, T., and Záková, J. (1997). Dárcovství gamet--biologické, legislativní a etické aspekty [Gamete donation-biological, legislative and ethical aspects]. *Čes. Gynekol.* 62, 72–75.
28. Crha, I., Dostál, J., Ventruba, P., Kudela, M., and Záková, J. (2004). Etické a legislativní otázky odběru a užití spermií zemřelého [Posthumous sperm procurement and use-ethical and legal dilemmas]. *Čes. Gynekol.* 69, 335–339.
29. Crha, I., Ventruba, P., Zakova, J., Huser, M., Kubsova, B., Hudecek, R., and Jarkovsky, J. (2009). Survival and infertility treatment in male cancer patients after sperm banking. *Fertil. Steril.* 91, 2344–2348.
30. Del Mastro, L., Boni, L., Michelotti, A., Gamucci, T., Olmeo, N., Gori, S., Giordano, M., Garrone, O., Pronzato, P., Bighin, C., et al. (2011). Effect of the gonadotropin-releasing hormone analogue triptorelin on the occurrence of chemotherapy-induced early menopause in premenopausal women with breast cancer: a randomized trial. *JAMA J. Am. Med. Assoc.* 306, 269–276.
31. Demeestere, I., Simon, P., Buxant, F., Robin, V., Fernandez, S.A., Centner, J., Delbaere, A., and Englert, Y. (2006). Ovarian function and spontaneous pregnancy after combined heterotopic and orthotopic cryopreserved ovarian tissue transplantation in a patient previously treated with bone marrow transplantation: case report. *Hum. Reprod. Oxf. Engl.* 21, 2010–2014.
32. Demeestere, I., Brice, P., Peccatori, F.A., Kentos, A., Gaillard, I., Zachee, P., Casasnovas, R.-O., Van Den Neste, E., Dechene, J., De Maertelaer, V., et al. (2013). Gonadotropin-releasing hormone agonist for the prevention of chemotherapy-induced ovarian failure in patients with lymphoma: 1-year follow-up of a prospective randomized trial. *J. Clin. Oncol. Off. J. Am. Soc. Clin. Oncol.* 31, 903–909.
33. DiMarzo, S.J., Huang, J., Kennedy, J.F., Villanueva, B., Hebert, S.A., and Young, P.E. (1990). Pregnancy rates with fresh versus computer-controlled cryopreserved semen for artificial insemination by donor in a private practice setting. *Am. J. Obstet. Gynecol.* 162, 1483–1488; discussion 1488–1490.
34. Donnez, J., Dolmans, M.M., Demylle, D., Jadoul, P., Pirard, C., Squifflet, J., Martinez-Madrid, B., and van Langendonck, A. (2004). Livebirth after orthotopic transplantation of cryopreserved ovarian tissue. *Lancet* 364, 1405–1410.
35. Dostal, J., Utrata, R., Loyka, S., Brezinova, J., Svobodova, M., and Shenfield, F. (2005). Post-mortem sperm retrieval in new European Union countries: case report. *Hum. Reprod. Oxf. Engl.* 20, 2359–2361.
36. Dreifaldt, A.C., Carlberg, M., and Hardell, L. (2004). Increasing incidence rates of childhood malignant diseases in Sweden during the period 1960–1998. *Eur. J. Cancer Oxf. Engl.* 1990 40, 1351–1360.
37. Dursun, P., Ayhan, A., Yanik, F.B., and Kuşçu, E. (2009). Ovarian transposition for the preservation of ovarian function in young patients with cervical carcinoma. *Eur. J. Gynaecol. Oncol.* 30, 13–15.
38. Ethics Committee of American Society for Reproductive Medicine (2013). Fertility preservation and reproduction in patients facing gonadotoxic therapies: a committee opinion. *Fertil. Steril.* 100, 1224–1231.

39. Ethics Committee of the American Society for Reproductive Medicine (2005). Fertility preservation and reproduction in cancer patients. *Fertil. Steril.* 83, 1622–1628.
40. Faddy, M.J., and Gosden, R.G. (1995). A mathematical model of follicle dynamics in the human ovary. *Hum. Reprod. Oxf. Engl.* 10, 770–775.
41. Faddy, M.J., Gosden, R.G., Gougeon, A., Richardson, S.J., and Nelson, J.F. (1992). Accelerated disappearance of ovarian follicles in mid-life: implications for forecasting menopause. *Hum. Reprod. Oxf. Engl.* 7, 1342–1346.
42. Falcone, T., and Bedaiwy, M.A. (2005). Fertility preservation and pregnancy outcome after malignancy. *Curr. Opin. Obstet. Gynecol.* 17, 21–26.
43. Fasano, G., Fontenelle, N., Vannin, A.-S., Biramane, J., Devreker, F., Englert, Y., and Delbaere, A. (2013). A randomized controlled trial comparing two vitrification methods versus slow-freezing for cryopreservation of human cleavage stage embryos. *J. Assist. Reprod. Genet.*
44. Gaulden, M.E. (1992). Maternal age effect: the enigma of Down syndrome and other trisomic conditions. *Mutat. Res.* 296, 69–88.
45. Goldenberg, R.L., and Culhane, J.F. (2007). Low birth weight in the United States. *Am. J. Clin. Nutr.* 85, 584S–590S.
46. Gook, D.A., Edgar, D.H., Borg, J., Archer, J., and McBain, J.C. (2005). Diagnostic assessment of the developmental potential of human cryopreserved ovarian tissue from multiple patients using xenografting. *Hum. Reprod. Oxf. Engl.* 20, 72–78.
47. Gougeon, A., and Chainy, G.B. (1987). Morphometric studies of small follicles in ovaries of women at different ages. *J. Reprod. Fertil.* 81, 433–442.
48. Green, D.M., Whitton, J.A., Stovall, M., Mertens, A.C., Donaldson, S.S., Ruyman, F.B., Pendergrass, T.W., and Robison, L.L. (2002). Pregnancy outcome of female survivors of childhood cancer: a report from the Childhood Cancer Survivor Study. *Am. J. Obstet. Gynecol.* 187, 1070–1080.
49. Greenlee, R.T., Murray, T., Bolden, S., and Wingo, P.A. (2000). Cancer statistics, 2000. *CA. Cancer J. Clin.* 50, 7–33.
50. Grigg, A.P., McLachlan, R., Zaja, J., and Szer, J. (2000). Reproductive status in long-term bone marrow transplant survivors receiving busulfan-cyclophosphamide (120 mg/kg). *Bone Marrow Transplant.* 26, 1089–1095.
51. Hagen, C.P., Aksglaede, L., Sørensen, K., Main, K.M., Boas, M., Cleemann, L., Holm, K., Gravholt, C.H., Andersson, A.-M., Pedersen, A.T., et al. (2010). Serum levels of anti-Müllerian hormone as a marker of ovarian function in 926 healthy females from birth to adulthood and in 172 Turner syndrome patients. *J. Clin. Endocrinol. Metab.* 95, 5003–5010.
52. Hancke, K., Strauch, O., Kissel, C., Göbel, H., Schäfer, W., and Denschlag, D. (2007). Sphingosine 1-phosphate protects ovaries from chemotherapy-induced damage in vivo. *Fertil. Steril.* 87, 172–177.
53. Hawkins, M.M. (1994). Pregnancy outcome and offspring after childhood cancer. *BMJ* 309, 1034.
54. Hendriks, D.J., Kwee, J., Mol, B.W.J., te Velde, E.R., and Broekmans, F.J.M. (2007). Ultrasonography as a tool for the prediction of outcome in IVF patients: a comparative meta-analysis of ovarian volume and antral follicle count. *Fertil. Steril.* 87, 764–775.

55. Heuchel, V., Schwartz, D., and Czyglik, F. (1983). Between and within subject correlations and variances for certain semen characteristics in fertile men. *Andrologia* 15, 171–176.
56. Hirsh, A.G. (1987). Vitrification in plants as a natural form of cryoprotection. *Cryobiology* 24, 214–228.
57. Hovatta, O. (2005). Methods for cryopreservation of human ovarian tissue. *Reprod. Biomed. Online* 10, 729–734.
58. Howell, S.J., and Shalet, S.M. (2001). Testicular function following chemotherapy. *Hum. Reprod. Update* 7, 363–369.
59. Hugues, J.-N., Theron-Gerard, L., Coussieu, C., Pasquier, M., Dewailly, D., and Cedrin-Durnerin, I. (2010). Assessment of theca cell function prior to controlled ovarian stimulation: the predictive value of serum basal/stimulated steroid levels. *Hum. Reprod. Oxf. Engl.* 25, 228–234.
60. Huser, E.J.M. (2006). Fertility preservation strategies in women undergoing chemotherapy for haematological malignancy. *Eur. Clin. Obstet. Gynaecol.* 2, 77–81.
61. Huser, M., Crha, I., Ventruba, P., Hudecek, R., Zakova, J., Smardova, L., Kral, Z., and Jarkovsky, J. (2008). Prevention of ovarian function damage by a GnRH analogue during chemotherapy in Hodgkin lymphoma patients. *Hum. Reprod. Oxf. Engl.* 23, 863–868.
62. Huser, M., Crha, I., ZÁKOVÁ, J., and Ventruba, P. (2010a). Proces reprodukčního stárnutí ženy – jeho příčiny a možnosti ovlivnění v praxi [Process of women's reproductive ageing--causes, evaluation and possible clinical usage]. *Čes. Gynekol.* 75, 353–358.
63. Huser, M., Crha, I., ZÁKOVÁ, J., and Ventruba, P. (2011). Onkofertilita – nový směr reprodukční medicíny [Oncofertility--a new trend in reproductive medicine]. *Čes. Gynekol.* 76, 91–99.
64. Huser, M., Zakova, J., Smardova, L., Crha, I., Janku, P., Hudecek, R., and Ventruba, P. (2012). Combination of fertility preservation strategies in young women with recently diagnosed cancer. *Eur. J. Gynaecol. Oncol.* 33, 42–50.
65. Huser, V., Narus, S.P., and Rocha, R.A. (2010b). Evaluation of a flowchart-based EHR query system: a case study of RetroGuide. *J. Biomed. Inform.* 43, 41–50.
66. Hwang, J.H., Yoo, H.J., Park, S.H., Lim, M.C., Seo, S.-S., Kang, S., Kim, J.-Y., and Park, S.-Y. (2012). Association between the location of transposed ovary and ovarian function in patients with uterine cervical cancer treated with (post-operative or primary) pelvic radiotherapy. *Fertil. Steril.* 97, 1387-1393.e1-2.
67. Imhof, M., Bergmeister, H., Lipovac, M., Rudas, M., Hofstetter, G., and Huber, J. (2006). Orthotopic microvascular reanastomosis of whole cryopreserved ovine ovaries resulting in pregnancy and live birth. *Fertil. Steril.* 85 *Suppl* 1, 1208–1215.
68. Institute of Health Information and Statistics of the Czech Republic (2010). Cancer incidence in the Czech Republic. *Annu. Stat. Rep.*
69. Isachenko, V., Isachenko, E., Reinsberg, J., Montag, M., Braun, F., and van der Ven, H. (2008). Cryopreservation of human ovarian tissue: effect of spontaneous and initiated ice formation. *Reprod. Biomed. Online* 16, 336–345.
70. Jin, X., Xiao, L.J., Zhang, X.-S., and Liu, Y.X. (2011). Apoptosis in ovary. *Front. Biosci. Sch. Ed.* 3, 680–697.

71. Johnson, J., Canning, J., Kaneko, T., Pru, J.K., and Tilly, J.L. (2004). Germline stem cells and follicular renewal in the postnatal mammalian ovary. *Nature* 428, 145–150.
72. Johnson, J., Bagley, J., Skaznik-Wikiel, M., Lee, H.-J., Adams, G.B., Niikura, Y., Tschudy, K.S., Tilly, J.C., Cortes, M.L., Forkert, R., et al. (2005). Oocyte generation in adult mammalian ovaries by putative germ cells in bone marrow and peripheral blood. *Cell* 122, 303–315.
73. Katayama, K.P., Stehlik, J., Kuwayama, M., Kato, O., and Stehlik, E. (2003). High survival rate of vitrified human oocytes results in clinical pregnancy. *Fertil. Steril.* 80, 223–224.
74. Keel, B.A., and Webster, B.W. (1989). Semen analysis data from fresh and cryopreserved donor ejaculates: comparison of cryoprotectants and pregnancy rates. *Fertil. Steril.* 52, 100–105.
75. Kelsey, T.W., Wright, P., Nelson, S.M., Anderson, R.A., and Wallace, W.H.B. (2011). A validated model of serum anti-müllerian hormone from conception to menopause. *PloS One* 6, e22024.
76. Kim, S.S. (2012). Assessment of long term endocrine function after transplantation of frozen-thawed human ovarian tissue to the heterotopic site: 10 year longitudinal follow-up study. *J. Assist. Reprod. Genet.* 29, 489–493.
77. Kitagawa, T., Suganuma, N., Nawa, A., Kikkawa, F., Tanaka, M., Ozawa, T., and Tomoda, Y. (1993). Rapid accumulation of deleted mitochondrial deoxyribonucleic acid in postmenopausal ovaries. *Biol. Reprod.* 49, 730–736.
78. Kolesnick, R.N., and Krönke, M. (1998). Regulation of ceramide production and apoptosis. *Annu. Rev. Physiol.* 60, 643–665.
79. Kwee, J., Elting, M.E., Schats, R., McDonnell, J., and Lambalk, C.B. (2007). Ovarian volume and antral follicle count for the prediction of low and hyper responders with in vitro fertilization. *Reprod. Biol. Endocrinol.* 5, 9.
80. La Marca, A., Sighinolfi, G., Radi, D., Argento, C., Baraldi, E., Artenisio, A.C., Stabile, G., and Volpe, A. (2010). Anti-Müllerian hormone (AMH) as a predictive marker in assisted reproductive technology (ART). *Hum. Reprod. Update* 16, 113–130.
81. Loren, A.W., Brazauskas, R., Chow, E.J., Gilleece, M., Halter, J., Jacobsohn, D.A., Joshi, S., Pidala, J., Quinn, G.P., Wang, Z., et al. (2013a). Physician perceptions and practice patterns regarding fertility preservation in hematopoietic cell transplant recipients. *Bone Marrow Transplant.* 48, 1091–1097.
82. Loren, A.W., Mangu, P.B., Beck, L.N., Brennan, L., Magdalinski, A.J., Partridge, A.H., Quinn, G., Wallace, W.H., and Oktay, K. (2013b). Fertility Preservation for Patients With Cancer: American Society of Clinical Oncology Clinical Practice Guideline Update. *J. Clin. Oncol.* JCO.2013.49.2678.
83. Lower, E.E., Blau, R., Gazder, P., and Tummala, R. (1999). The risk of premature menopause induced by chemotherapy for early breast cancer. *J. Womens Health Gend. Based Med.* 8, 949–954.
84. Mardesic, T., Snajderova, M., Sramkova, L., Keslova, P., Sedlacek, P., and Stry, J. (2004). Protocol combining GnRH agonists and GnRH antagonists for rapid suppression and prevention of gonadal damage during cytotoxic therapy. *Eur. J. Gynaecol. Oncol.* 25, 90–92.

85. Marks, D.I., Friedman, S.H., Delli Carpini, L., Nezu, C.M., and Nezu, A.M. (1997). A prospective study of the effects of high-dose chemotherapy and bone marrow transplantation on sexual function in the first year after transplant. *Bone Marrow Transplant.* 19, 819–822.
86. Martinez-Madrid, B., Dolmans, M.-M., Van Langendonck, A., Defrère, S., and Donnez, J. (2004). Freeze-thawing intact human ovary with its vascular pedicle with a passive cooling device. *Fertil. Steril.* 82, 1390–1394.
87. Meduri, G., Touraine, P., Beau, I., Lahuna, O., Desroches, A., Vacher-Lavenu, M.C., Kuttann, F., and Misrahi, M. (2003). Delayed Puberty and Primary Amenorrhea Associated with a Novel Mutation of the Human Follicle-Stimulating Hormone Receptor: Clinical, Histological, and Molecular Studies. *J. Clin. Endocrinol. Metab.* 88, 3491–3498.
88. Meiorow, D. (1999). Ovarian Injury and Modern Options to Preserve Fertility in Female Cancer Patients Treated with High Dose Radio-Chemotherapy for Hemato-Oncological Neoplasias and other Cancers. *Leuk. Lymphoma* 33, 65–76.
89. Meiorow, D., Assad, G., Dor, J., and Rabinovici, J. (2004). The GnRH antagonist cetrorelix reduces cyclophosphamide-induced ovarian follicular destruction in mice. *Hum. Reprod. Oxf. Engl.* 19, 1294–1299.
90. Meiorow, D., Levron, J., Eldar-Geva, T., Hardan, I., Fridman, E., Zalel, Y., Schiff, E., and Dor, J. (2005). Pregnancy after transplantation of cryopreserved ovarian tissue in a patient with ovarian failure after chemotherapy. *N. Engl. J. Med.* 353, 318–321.
91. Meistrich, M.L., Wilson, G., and Huhtaniemi, I. (1999). Hormonal treatment after cytotoxic therapy stimulates recovery of spermatogenesis. *Cancer Res.* 59, 3557–3560.
92. Meistrich, M.L., Wilson, G., Kangasniemi, M., and Huhtaniemi, I. (2000). Mechanism of Protection of Rat Spermatogenesis by Hormonal Pretreatment: Stimulation of Spermatogonial Differentiation After Irradiation. *J. Androl.* 21, 464–469.
93. Metallinou, C., Asimakopoulos, B., Schröer, A., and Nikolettos, N. (2007). Gonadotropin-releasing hormone in the ovary. *Reprod. Sci. Thousand Oaks Calif* 14, 737–749.
94. Nelson, S.M., Messow, M.C., McConnachie, A., Wallace, H., Kelsey, T., Fleming, R., Anderson, R.A., and Leader, B. (2011). External validation of nomogram for the decline in serum anti-Müllerian hormone in women: a population study of 15,834 infertility patients. *Reprod. Biomed. Online* 23, 204–206.
95. Nemeč, P., Huser, M., and Souček, M. (2008). Možnosti ochrany reprodukčních funkcí u žen podstupujících léčbu cytotoxickými léky [The options for preserving reproductive functions in women undergoing cytostatic therapy]. *Vnitřní Lékařství* 54, 245–250.
96. Newton, H., Aubard, Y., Rutherford, A., Sharma, V., and Gosden, R. (1996). Low temperature storage and grafting of human ovarian tissue. *Hum. Reprod. Oxf. Engl.* 11, 1487–1491.
97. Nisolle, M., Casanas-Roux, F., Qu, J., Motta, P., and Donnez, J. (2000). Histologic and ultrastructural evaluation of fresh and frozen-thawed human ovarian xenografts in nude mice. *Fertil. Steril.* 74, 122–129.

98. Oktay, K. (2006). Spontaneous conceptions and live birth after heterotopic ovarian transplantation: is there a germline stem cell connection? *Hum. Reprod. Oxf. Engl.* *21*, 1345–1348.
99. Oktay, K., Hourvitz, A., Sahin, G., Oktem, O., Safro, B., Cil, A., and Bang, H. (2006). Letrozole reduces estrogen and gonadotropin exposure in women with breast cancer undergoing ovarian stimulation before chemotherapy. *J. Clin. Endocrinol. Metab.* *91*, 3885–3890.
100. Olivera, A., Kohama, T., Edsall, L., Nava, V., Cuvillier, O., Poulton, S., and Spiegel, S. (1999). Sphingosine kinase expression increases intracellular sphingosine-1-phosphate and promotes cell growth and survival. *J. Cell Biol.* *147*, 545–558.
101. Pilka, L., Rumpík, D., and Pilka, R. (2003). Dárčovství oocytů: etické a praktické otázky [Oocyte donation: ethical and practical questions]. *Čes. Gynekol.* *68*, 122–124.
102. Pilka, L., Rumpík, D., Pilka, R., Koudelka, M., and Prudil, L. (2009). Surogátní mateřství – literární názory a praxe [Surrogate maternity-literature review and practice]. *Čes. Gynekol.* *74*, 144–147.
103. Porcu, E., Bazzocchi, A., Notarangelo, L., Paradisi, R., Landolfo, C., and Venturoli, S. (2008). Human oocyte cryopreservation in infertility and oncology. *Curr. Opin. Endocrinol. Diabetes Obes.* *15*, 529–535.
104. Pritts, E.A. (2010). Letrozole for ovulation induction and controlled ovarian hyperstimulation. *Curr. Opin. Obstet. Gynecol.* *22*, 289–294.
105. Rebar, R.W. (2009). Premature ovarian failure. *Obstet. Gynecol.* *113*, 1355–1363.
106. Requena, A., Herrero, J., Landeras, J., Navarro, E., Neyro, J.L., Salvador, C., Tur, R., Callejo, J., Checa, M.A., Farré, M., et al. (2008). Use of letrozole in assisted reproduction: a systematic review and meta-analysis. *Hum. Reprod. Update* *14*, 571–582.
107. Revel, A., Revel-Vilk, S., Aizenman, E., Porat-Katz, A., Safran, A., Ben-Meir, A., Weintraub, M., Shapira, M., Achache, H., and Laufer, N. (2009). At what age can human oocytes be obtained? *Fertil. Steril.* *92*, 458–463.
108. Rezazadeh Valojerdi, M., Eftekhari-Yazdi, P., Karimian, L., Hassani, F., and Movaghar, B. (2009). Vitrification versus slow freezing gives excellent survival, post warming embryo morphology and pregnancy outcomes for human cleaved embryos. *J. Assist. Reprod. Genet.* *26*, 347–354.
109. Rivkees, S.A., and Crawford, J.D. (1988). The relationship of gonadal activity and chemotherapy-induced gonadal damage. *JAMA J. Am. Med. Assoc.* *259*, 2123–2125.
110. Robison, L.L., Armstrong, G.T., Boice, J.D., Chow, E.J., Davies, S.M., Donaldson, S.S., Green, D.M., Hammond, S., Meadows, A.T., Mertens, A.C., et al. (2009). The Childhood Cancer Survivor Study: a National Cancer Institute-supported resource for outcome and intervention research. *J. Clin. Oncol. Off. J. Am. Soc. Clin. Oncol.* *27*, 2308–2318.
111. Rodriguez-Wallberg, K.A., and Oktay, K. (2014). Fertility preservation during cancer treatment: clinical guidelines. *Cancer Manag. Res.* *6*, 105–117.

112. Rucker, E.B., 3rd, Dierisseau, P., Wagner, K.U., Garrett, L., Wynshaw-Boris, A., Flaws, J.A., and Hennighausen, L. (2000). Bcl-x and Bax regulate mouse primordial germ cell survival and apoptosis during embryogenesis. *Mol. Endocrinol. Baltim. Md* 14, 1038–1052.
113. Sauer, M.V. (1998). The impact of age on reproductive potential: lessons learned from oocyte donation. *Maturitas* 30, 221–225.
114. Schrader, M., Heicappell, R., Müller, M., Straub, B., and Miller, K. (2001). Impact of chemotherapy on male fertility. *Onkologie* 24, 326–330.
115. Sills, E.S., Alper, M.M., and Walsh, A.P.H. (2009). Ovarian reserve screening in infertility: practical applications and theoretical directions for research. *Eur. J. Obstet. Gynecol. Reprod. Biol.* 146, 30–36.
116. Spermon, J.R., Kiemeny, L.A.L.M., Meuleman, E.J.H., Ramos, L., Wetzels, A.M.M., and Witjes, J.A. (2003). Fertility in men with testicular germ cell tumors. *Fertil. Steril.* 79 Suppl 3, 1543–1549.
117. Stewart, B.W., and Kleihues, P. (2008). *World Cancer Report* (IARC Press).
118. Subak, L.L., Adamson, G.D., and Boltz, N.L. (1992). Therapeutic donor insemination: a prospective randomized trial of fresh versus frozen sperm. *Am. J. Obstet. Gynecol.* 166, 1597–1604; discussion 1604–1606.
119. Sudour, H., Chastagner, P., Claude, L., Desandes, E., Klein, M., Carrie, C., and Bernier, V. (2010). Fertility and pregnancy outcome after abdominal irradiation that included or excluded the pelvis in childhood tumor survivors. *Int. J. Radiat. Oncol. Biol. Phys.* 76, 867–873.
120. Takai, Y., Canning, J., Perez, G.I., Pru, J.K., Schlezinger, J.J., Sherr, D.H., Kolesnick, R.N., Yuan, J., Flavell, R.A., Korsmeyer, S.J., et al. (2003). Bax, caspase-2, and caspase-3 are required for ovarian follicle loss caused by 4-vinylcyclohexene diepoxide exposure of female mice in vivo. *Endocrinology* 144, 69–74.
121. Thomson, A.B., Anderson, R.A., Irvine, D.S., Kelnar, C.J.H., Sharpe, R.M., and Wallace, W.H.B. (2002). Investigation of suppression of the hypothalamic-pituitary-gonadal axis to restore spermatogenesis in azoospermic men treated for childhood cancer. *Hum. Reprod. Oxf. Engl.* 17, 1715–1723.
122. Ventruba, P., Pilka, R., Cupr, Z., Soska, J., and Vesely, J. (1991a). Development and results of microsurgical sterility operations at the Gynecology and Obstetrics Clinics of the Brno Masaryk University. *Zentralblatt Für Gynäkol.* 113, 549–556.
123. Ventruba, P., Pilka, L., Cupr, Z., Trávník, P., Malenovská, A., and Zaková, J. (1991b). Oocyte removal in conjunction with pelvic microsurgery. *Zentralblatt Für Gynäkol.* 113, 557–561.
124. Ventruba, P., Mardesic, T., Pilka, L., Crha, I., Visnová, H., and Hudecek, R. (1998). Národní registr asistované reprodukce: výsledky a analýza komplikací [The National Register for Assisted Reproduction: results and analysis of complications]. *Čes. Gynecol.* 63, 107–110.
125. Ventruba P., Záková J., Adler, J., Trávník P., Komárková J., and Němcová S. (1996). Prodloužená kultivace lidských embryí: srovnání kokultivace na lidských tubárních epitelích a kultivace v syntetickém médiu [Prolonged culture

- of human embryos: comparison of coculture on human tubal epithelium and culture in synthetic media]. *Čes. Gynekol.* 61, 351–357.
126. Vital-Reyes, V., Tellez-Velasco, S., Chhieng, D., Grizzle, W., and Reyes-Fuentes, A. (2004). Spontaneous pregnancy in a woman with premature ovarian failure: a case report. *J. Reprod. Med.* 49, 989–991.
 127. Wallace, W.H.B., and Kelsey, T.W. (2010). Human Ovarian Reserve from Conception to the Menopause. *PLoS ONE* 5, e8772.
 128. Wallace, W.H.B., Anderson, R.A., and Irvine, D.S. (2005). Fertility preservation for young patients with cancer: who is at risk and what can be offered? *Lancet Oncol.* 6, 209–218.
 129. Wang, C., Chen, M., Fu, F., and Huang, M. (2013). Gonadotropin-Releasing Hormone Analog Cotreatment for the Preservation of Ovarian Function during Gonadotoxic Chemotherapy for Breast Cancer: A Meta-Analysis. *PloS One* 8, e66360.
 130. Ward, J.A., Robinson, J., Furr, B.J., Shalet, S.M., and Morris, I.D. (1990). Protection of spermatogenesis in rats from the cytotoxic procarbazine by the depot formulation of Zoladex, a gonadotropin-releasing hormone agonist. *Cancer Res.* 50, 568–574.
 131. Westhoff, C., Murphy, P., and Heller, D. (2000). Predictors of ovarian follicle number. *Fertil. Steril.* 74, 624–628.
 132. Woodruff, T.K. (2010). The Oncofertility Consortium--addressing fertility in young people with cancer. *Nat. Rev. Clin. Oncol.* 7, 466–475.
 133. Xu, M., Barrett, S.L., West-Farrell, E., Kondapalli, L.A., Kiesewetter, S.E., Shea, L.D., and Woodruff, T.K. (2009). In vitro grown human ovarian follicles from cancer patients support oocyte growth. *Hum. Reprod. Oxf. Engl.* 24, 2531–2540.
 134. Zhang, Y., Xiao, Z., Wang, Y., Luo, S., Li, X., and Li, S. (2013). Gonadotropin-releasing hormone for preservation of ovarian function during chemotherapy in lymphoma patients of reproductive age: a summary based on 434 patients. *PloS One* 8, e80444.