Best Practice & Research Clinical Obstetrics and Gynaecology 55 (2019) 133–138

Contents lists available at ScienceDirect

Best Practice & Research Clinical Obstetrics and Gynaecology

journal homepage: www.elsevier.com/locate/bpobgyn

Conservative management of reproductive cancers – Multiple choice questions Vol. 55

1. In women receiving chemotherapy, which of the following is/are associated with risk of ovarian dysfunction?

a) Alkylating agents (e.g. cyclophosphamide)
b) Age <40 at time of chemotherapy
c) GnRH agonist use
d) Cumulative doses
e) Previous pregnancies

2. What is/are option(s) for fertility preservation in women undergoing pelvic radiation therapy?

a) Ovarian cryopreservation
b) Oocyte cryopreservation
c) Ovarian transposition
d) GnRH agonist suppression
e) Tamoxifen suppression

3. Ovarian stimulation for the purposes of oocyte cryopreservation for fertility preservation may commence at which of the following times?

a) In the early follicular phase of the menstrual cycle only
b) In the luteal phase of the menstrual cycle only
c) In the peri-ovulatory period
d) After two weeks oral contraceptive pill down regulation only
e) At any time during the menstrual cycle (random start)

4. Premature ovarian failure can occur in which of the following circumstances?

a) Secondary to the formation of ovarian auto-antibodies
b) Following nephrotoxic chemotherapy
c) Following pelvic radiation
d) In the genetic context of a fragile X pre-mutation
e) In Turners syndrome

https://doi.org/10.1016/j.bpobgyn.2019.02.004
1521-6934

5. Which of the following genes have been implicated ibn premature ovarian failure?

a) FMR1
b) FOXL1
c) BMP15
d) NOBOX
e) POF1B

6. A woman's ovarian reserve can be assessed using which of the following?

a) AMH level
b) Early follicular phase antral follicle ultrasound assessment
c) Early follicular phase FSH level
d) Inhibin A levels
e) Inhibin B levels

7. From resting pool to ovulation, a maturing oocyte takes a total of:

a) 1 menstrual cycle (28–35 days)
b) 2 menstrual cycles (56–70 days)
c) 6 menstrual cycles (168–210 days)
d) 10 menstrual cycles (280–300 days)
e) 12 menstrual cycles (336–370 days)

8. The following statement(s) is/are true with regard to conservative surgery in the management of cervical cancer:

a) The main goal of conservative surgery is to preserve fertility in young cervical cancer patients.
b) Parametrial resection is not performed as part of conservative surgical procedures.
c) Extrafascial hysterectomy is a conservative surgical modality for patients with stage IA2 cervical cancer.
d) Pelvic lymphadenectomy may be performed in the context of conservative surgery.
e) Cervical conization can be used both as a diagnostic and therapeutic procedure.

9. Concerning the outcomes of conservative surgery for cervical cancer, the following statements are true or false:

a) Overall, survival and recurrence rates of radical surgery seem to be lower than those of conservative surgery.
b) When fertility is preserved, the obstetric outcomes of conservative procedures seem to be better than those of radical procedures.
c) In patients who receive neo-adjuvant chemotherapy prior to fertility-sparing surgery, pregnancy rates tend to be higher in women who undergo conservative surgery than in those who undergo radical surgery.
d) Among cervical cancer survivors treated conservatively, the probability of premature delivery is higher than in the general population of reproductive age women.
e) Conservative surgery might increase the risk of ectopic pregnancy among cervical cancer survivors.

10. For each of the following prognostic factors, determine whether it is true or false that they are associated with a low-risk of parametrial involvement in patients with early stage cervical cancer:

a) Depth of stromal invasion <10mm.
b) Tumor diameter <2.5cm.
c) Presence of Lympho-vascular Space Invasion (LVSI).
d) Age <35 years.
e) Absence of lymph node metastasis

11. In which of the following is/are conservative treatment of patients with endometrial cancer with intrauterine progestins appropriate?

a) A 52 year old with stage 1 disease on imaging
b) A 90 year old frail patient deemed very high anaesthetic risk
c) A 38 year old NHPCC carrier who wishes for fertility preservation
d) A 60 year old with likely stage 2 disease on imaging
e) A 48 year old with clear cell carcinoma and likely stage 1 disease on imaging

12. Which groups of patients could benefit from conservative treatment in endometrial cancer?

a) Young women who have not completed their family
b) Women with comorbidities which may place them at risk of adverse events
c) Women who appear to be frail
d) Women with a high-risk cell type endometrial cancer
e) Women with myometrial invasion >50%

13. Which of the following is/are true regarding ovarian tissue cryopreservation?

a) It is the only option for pre-pubertal girls
b) It is suitable for patients scheduled for treatments with a high risk of premature ovarian insufficiency who cannot delay cancer treatments
c) It can be done at any time during the menstrual cycle
d) It can be done during hysteroscopy
e) It is for patients where controlled ovarian stimulation is contra-indicated

14. A successful FP program includes which of the following?

a) Nurses
b) Counsellors
c) Scientists
d) Fertility Specialists
e) Oncologists

15. The following Assisted Reproductive Technologies (ART) is/are established FP options:

a) Sperm cryopreservation
b) Oocyte/embryo cryopreservation
c) Testicular tissue cryopreservation
d) In-vitro maturation (IVM)
e) Gonadal suppression using GnRH analogues in men and women

16. Cryopreservation of human mature oocytes:

a) Is associated with a high risk of meiotic errors that may predispose to aneuploidy
b) Results in reduced viability of embryos derived from subsequent in vitro fertilisation
c) Should be the option of choice when possible for fertility preservation in women about to undergo cytotoxic treatment for cancer
d) Has still only resulted in a small number of live births
e) Can be applied to improve the future fertility prospects of young women who wish to defer conception until later in life.

17. In women at risk of loss of fertility due to imminent cytotoxic cancer therapy which of the following is/are true?

a) Oocyte cryopreservation should only be considered when embryo cryopreservation is not an option
b) Cryopreservation of ovarian cortex should be considered as experimental
c) The prospects of future conception from cryopreserved gametes or embryos will be dependent on the woman's age at the time of storage
d) The type of cancer should be considered when assessing the cryopreservation options
e) In vitro maturation of oocytes from primordial follicles in cryopreserved ovarian tissue is now well established technology

18. In cases where cryopreserved ovarian tissue has been harvested from women with leukaemia:

a) The cryopreservation process will destroy any residual malignant cells in the ovarian tissue
b) Histological examination of the harvested ovarian tissue will confirm the presence or absence of contaminating leukaemic cells
c) Xenografting of tissue into immunodeficient mice will ensure identification of any leukaemic cells
d) It is not possible to fully exclude the possibility of contamination with leukaemic cells in the stored tissue
e) Future developments that allow oocyte maturation in vitro from primordial follicle stages may provide the only safe option for use of the tissue

19. The following statement(s) is/are true about the ovarian reserve?

a) It consists only of primordial follicles
b) It is formed after birth in humans
c) It is not replenished in adulthood
d) It is decreased by activation and atresia of primordial follicles
e) It is susceptible to chemo and radiotherapy

20. Folliculogenesis describes the trajectory of growth and development of follicles each containing an oocyte from the primordial to the dominant ovulatory stage. Which of the following is/are true?

a) Folliculogenesis occurs independently of the pituitary gonadotrophins, FSH and LH, until the late pre-antral stage.
b) Activation of a primordial follicle into the growth trajectory is characterised by an increase in the size of the oocyte and transformation of squamous pre-granulosa cells into proliferating cuboidal granulosa cells.
c) Less than 1% of activated primordial follicles ovulate.
d) A healthy oocyte is essential for folliculogenesis.
e) Atresia in growing follicles begins in the oocyte.

21. Currently, fertility preservation techniques for women who are undergoing cancer-based therapies is/are which of the following?

a) Cryopreservation of embryos and unfertilised oocytes, on a cycle-day independent schedule.
b) Excision of ovarian tissue, which is then sustained in vitro, and re-transplanted following commencement of treatment.
c) Cryopreservation of ovarian tissue, followed by re-transplantation following commencement of treatment.
d) Generating oocytes from pluripotent stem cells.
e) Ovarian suppression using gonadotropin-releasing hormone agonists (GnRHa).

22. Before oocytes can be produced from stem cells in humans, which of the following technical hurdles must be overcome?

a) In vitro culturing technologies need to account for the lengthy and tightly-regulated process of folliculogenesis.
b) In vitro culturing technologies must support the ability of the oocyte to gain competence and resume its meiotic potential through fertilisation and preimplantation development.
c) Ovarian somatic cells must be developed from human embryonic gonadal cells during the process.
d) In vitro culturing technologies need to be developed to support the third stage of development for in vitro maturation only.
e) The efficiency of producing oocytes from stem cells that are capable of producing viable offspring is an important parameter in assessing the efficacy of this process.

23. The following is/are true regarding primordial follicles:

a) A primordial follicle consists of a “quiescent” oocyte in the anaphase of meiosis
b) The oocyte is said to be “quiescent” as it is known to be metabolically inactive
c) They undergo atresia if they lack DNA repair activity
d) Oogenesis, occurs in the fetal ovary between 150 and 250 days of gestation
e) At birth there are on average 100,000 primordial follicles in the ovarian reserve

24. Which of the following factors is/are necessary for combined follicular and oocyte growth?

a) TGF-β related growth factor
b) Growth differentiation factor 9 (GDF9)
c) Bone morphogenetic factor 15 (BMP15)
d) Heterodimer of GDF9 and BMP15
e) Cumulo-folliculin

25. The largest patient group which has undergone uterus transplantation up until 2018 is with which condition?

a) Cervical cancer
b) Intrauterine adhesions
c) MRKH syndrome
d) Leiomyoma
e) Recurrent miscarriage of unknown aetiology

26. At uterine transplantation the uterine vessels are anastomosed to which of the following?

a) Epigastric vessels
b) Aorta and vena cava
c) Internal iliac vessels
d) External iliac vessels
e) Obturator vessels

27. The following statement(s) is/are true about cancer and infertility risk in men:

a) Lymphomas and leukaemias have minimal impact on semen quality
b) Testicular cancer is associated with blood-testis barrier alterations with consequent production of anti-sperm antibodies
c) Cancer associated stress is associated with abnormal sperm production
d) Cancer associated nutritional deficiencies are associated with abnormal sperm production
e) Cancer treatment involving multiple administrations of low-dose chemotherapy has less detrimental effect than treatment involving higher dosages delivered in fewer administrations

28. The following statement(s) is/are true about fertility preservation in pre-pubertal boys:

a) The fertility capacity of pre-pubertal boys facing chemotherapy treatment can now be preserved with a similar success rate to that achieved in pubertal boys
b) Boys at the onset of puberty can often have small numbers of viable sperm
c) Sperm for banking can be retrieved with the use of surgical approach only (onco-TESE)
d) To date, resumption of spermatogenesis from grafted immature testicular tissue has been achieved in animal models only
e) Testicular tissue cryopreservation should not be recommended as it has not been successfully tested in humans

29. The following is/are true regarding perinatal outcomes of surrogate pregnancies compared with pregnancies after autologous IVF:

a) Autologous fresh IVF has a lower rate of preterm birth than intracytoplasmic sperm injection
b) Intracytoplasmic sperm injection has a lower birth rate than autologous fresh IVF
c) Autologous frozen embryo transfers have a higher rate of preterm birth than surrogacy
d) Surrogacy has a higher birth rate than autologous frozen embryo transfers
e) Birth weight is significantly higher in the gestational surrogacy group.

30. Which of the following is/are true regarding surrogacy?

a) In the USA guidelines on single or multiple embryo transfer were followed in fewer than 50% of cases
b) In Canada it is illegal to pay a surrogate
c) In Canada, the commercial drive to assist childless couples has led to guideline adherence under 50%
d) Countries with seemingly ethical laws permitting altruistic surrogacy only, are responsible for encouraging reproductive tourism
e) Women surveyed in the UK would prefer uterine transplantation to surrogacy