ZAMZAM MEDICAL JOURNAL
Vol. 1, Issue 2 · October 2026 · ISSN 1858-9758

CONTINUING MEDICAL EDUCATION

Self-Assessment Questions — Vol. 1, Issue 2

The following questions are designed to reinforce key clinical and scientific concepts presented in this issue. Readers are encouraged to attempt all questions before consulting the answer key. Physicians who achieve a score of 80% or above (12 out of 14 correct) may submit their answers to rector@zamzam.edu.sd with the subject line "CME Vol. 1 Issue 2" to receive a Certificate of CME Participation from Zamzam University College.

ARTICLE 1 — Senolytics as a Strategy to Prevent Cancer Relapse After Therapy-Induced Senescence

1. When cancer cells enter therapy-induced senescence (TIS), the most clinically relevant consequence is:
(A) Permanent growth arrest with negligible risk of further disease progression
(B) Secretion of pro-inflammatory mediators (SASP) that may create a tumour-permissive microenvironment
(C) Immediate conversion to a non-tumorigenic phenotype
(D) Induction of apoptosis in adjacent normal stromal cells

2. The senescence-associated secretory phenotype (SASP) contributes to cancer relapse primarily through:
(A) Direct cytotoxic damage to immune effector cells
(B) Epigenetic silencing of tumour-suppressor genes in neighbouring cells
(C) Recruitment of immunosuppressive cells and secretion of growth factors that may reactivate dormant cancer cells
(D) Inhibition of chemotherapy uptake across the cell membrane

3. A patient with estrogen-receptor-positive breast cancer is about to start anthracycline-based chemotherapy. Under the peri-chemotherapy framework proposed in this review, the most rational senolytic schedule is:
(A) Continuous daily dosing throughout the whole chemotherapy course
(B) A single course before the first chemotherapy cycle only
(C) Intermittent dosing for three consecutive days after each chemotherapy cycle
(D) Dosing only after relapse has been detected on surveillance imaging

4. Senolytics differ mechanistically from conventional cytotoxic chemotherapy in that they:
(A) Target rapidly dividing cells by interfering with DNA replication
(B) Selectively eliminate growth-arrested senescent cells that have acquired anti-apoptotic survival pathways
(C) Restore tumour suppressor gene expression through epigenetic reprogramming
(D) Activate natural killer cells against circulating tumour cells

5. Which of the following statements best summarises the paradox of therapy-induced senescence as described in this review?
(A) TIS is uniformly protective because it prevents proliferation of cancer cells indefinitely
(B) TIS initially suppresses tumour growth but the resulting senescent cell population may later fuel relapse through paracrine signalling
(C) TIS is indistinguishable from apoptosis at the cellular level and has identical clinical implications
(D) TIS occurs only in haematological malignancies and is not relevant to solid tumours

ARTICLE 2 — Albendazole as Sole Treatment for Cystic Echinococcosis Genotype 6 in Central Sudan

6. The Echinococcus granulosus genotype 6 (G6) strain found in Central Sudan is predominantly associated with:
(A) Sheep as the primary intermediate host, similar to the Mediterranean G1 strain
(B) Camels as the intermediate host, with transmission to humans through contaminated water in pastoral communities
(C) Pigs and wild boar in riverine agricultural zones
(D) Rodents in semi-arid highland regions

7. According to the WHO-IWGE ultrasound classification, CE4 and CE5 cysts are described as "inactive" because they:
(A) Are too small to be detected on standard abdominal ultrasound
(B) Show a heterogeneous or calcified matrix reflecting degenerating content with negligible viable protoscoleces
(C) Have ruptured spontaneously and drained into the peritoneal cavity
(D) Are located in surgically inaccessible segments of the liver

ARTICLE 2 — Albendazole for Cystic Echinococcosis

8. The main rationale for testing albendazole alone (without PAIR or surgery) in this protocol is:

(A) PAIR is contraindicated in all forms of abdominal hydatid disease due to anaphylaxis risk

(B) PAIR needs specialised sonographic expertise that is unavailable in most primary-care settings in endemic regions, and a small pilot of albendazole monotherapy achieved a 100% cure rate at two years

(C) Surgical excision is no longer recommended by WHO for any genotype

(D) Mebendazole is unavailable in Sudan, making albendazole the only feasible anthelmintic

9. The standard oral dosing regimen of albendazole for the treatment of cystic echinococcosis is:

(A) 200 mg once daily continuously for 12 months

(B) 400 mg twice daily in 28-day active cycles separated by 14-day rest intervals

(C) 800 mg as a single weekly dose for 6 months

(D) 400 mg once daily without treatment breaks for 3 months

ARTICLE 3 — Iron Deficiency Anaemia in a Postmenopausal Woman

10. In a postmenopausal woman presenting with confirmed iron deficiency anaemia, the single most important next investigation is:

(A) Serum vitamin B12, folate, and thyroid function tests

(B) Bone marrow trephine biopsy to exclude haematological malignancy

(C) Bidirectional gastrointestinal endoscopy to exclude occult mucosal bleeding or malignancy

(D) CT abdomen and pelvis with contrast

11. Which combination most reliably distinguishes iron deficiency anaemia from anaemia of chronic disease?

(A) Elevated MCV with low haemoglobin

(B) Low serum ferritin, low transferrin saturation, and elevated TIBC

(C) Normal serum ferritin with reduced transferrin saturation and elevated CRP

(D) Microcytosis with reticulocytosis and elevated serum iron

12. IDA in a postmenopausal woman demands active exclusion of an organic bleeding source because:

(A) Menstrual iron loss may continue intermittently for up to 5 years after the last menstrual period

(B) Postmenopausal women lack any physiological explanation for iron depletion, making an occult source mandatory to exclude

(C) Dietary iron intake invariably becomes adequate after menopause

(D) Haemolysis is more prevalent in postmenopausal women due to hormonal changes

13. First-line therapy for iron deficiency anaemia in a haemodynamically stable patient able to tolerate oral medications:

(A) Intravenous iron infusion (ferric carboxymaltose or iron sucrose)

(B) Packed red blood cell transfusion if haemoglobin falls below 10 g/dL

(C) Oral ferrous sulphate or ferrous fumarate, ideally taken with vitamin C to maximise absorption

(D) Intramuscular iron dextran to bypass gastrointestinal absorption limitations

14. A 62-year-old woman has ferritin 6 µg/L and Hgb 9.2 g/dL with no GI symptoms. The most appropriate next step:

(A) Start oral iron therapy and reassess haemoglobin in 4 weeks

(B) Refer for urgent bidirectional endoscopy and start oral iron therapy concurrently

(C) Discharge with dietary advice and recheck bloods in 3 months

(D) Request CT colonography as a non-invasive alternative to colonoscopy

Answer Key — Vol. 1, Issue 3 The answer key for these self-assessment questions will be published in **Zamzam Medical Journal, Vol. 1, Issue 3**. Readers are invited to submit their answers now to rector@zamzam.edu.sd with the subject line "CME Vol. 1 Issue 2 — [Your Name]". Certificates of CME Participation will be issued within 14 working days of the answer key publication.