JACC

JACC Journals › JACC › Archives › Just Accepted

FREE ACCESS | Societal Statement | 15 August 2025

2025 High Blood Pressure Guideline-at-a-Glance

Authors: Martha Gulati, Mykela M. Moore, and Morgane Cibotti-Sun

Publication: JACC • Preprint

FREE ACCESS | Clinical Practice Guideline | 14 August 2025

2025 AHA/ACC/AANP/AAPA/ABC/ACCP/ACPM/AGS/AMA/ASPC/NMA/PCNA/SGIM Guideline for the Prevention, Detection, Evaluation, and Management of High Blood Pressure in Adults: A Report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines

NEWS RELEASE 25-SEP-2025

Unfolded Protein Response pathway offers new targets to treat bone weakness in cancer patients

New drugs that modulate protein processing in bone cells may prevent bone weakening and limit the growth of bone-localized tumors

Before a chain of amino acids can become an active and useful protein, it must be processed and folded into the appropriate conformation. Much of this processing occurs in the endoplasmic reticulum (ER) of every cell. However, any disruptions in protein homeostasis can be very stressful to the ER, and when the ER gets overwhelmed, a safety system called the Unfolded Protein Response (UPR) engages to slow down protein synthesis and allow the ER to catch up. If a temporary slowdown of protein synthesis isn't enough to restore normal ER function, the UPR triggers cell death.

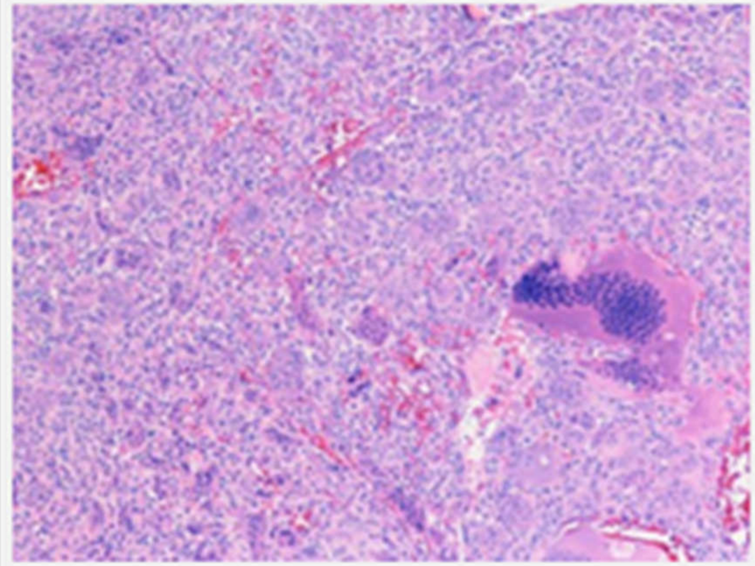

IMAGE:

DRUGS THAT INTERRUPT THE DEATH OF HEALTHY BONE CELLS AND INDUCE THE DEATH OF CANCEROUS CELLS LOCATED IN BONES CAN PREVENT OR REDUCED CANCER ASSOCIATED BONE WEAKNESS AND IMPROVE TREATMENT OUTCOMES FOR PATIENTS.

view more

CREDIT: "GIANT CELL TUMOR OF BONE, TIBIA" BY CNICHOLSONPATH IMAGE SOURCE LINK: HTTPS://OPENVERSE.ORG/IMAGE/721CC46F-5DEF-41CC-A970-739C99D10A34

In many types of cancerous cells, the UPR response is altered to prevent cell death and drive the relentless growth that characterizes malignancy. These changes allow cancerous cells to tolerate the low oxygen and low nutrient environment of a tumor and continue to multiply. Drugs and therapies that target parts of the UPR pathway could

INVITED EDITORIAL

Editorial: *H. pylori* Treatment—Old Ingredients in New Effective Regimens

Theodore Rokkas[1,2]

[1]Gastroenterology Clinic, Henry Dunant Hospital, Athens, Greece | [2]Medical School, European University of Cyprus, Nicosia, Cyprus

Correspondence: Theodore Rokkas (sakkor@otenet.gr)

Received: 1 July 2025 | **Revised:** 2 July 2025 | **Accepted:** 2 July 2025

Handling Editor: Colin Howden

Funding: The author received no specific funding for this work.

Keywords: bismuth | *H. pylori* | single-capsule BQT

Optimal *H. pylori* treatment constitutes a challenge in clinical practice. In many areas, *H. pylori* eradication rates are below

both first-line and rescue therapy, even in cases of dual resistance to clarithromycin and metronidazole [6, 7].

Optimal *H. pylori* treatment constitutes a challenge in clinical practice. In many areas, *H. pylori* eradication rates are below 85% [1], and are likely to fall further as antimicrobial resistance increases worldwide. *H. pylori* culture and sensitivity testing is still not available in many parts of the world; consequently, tailored treatments specific to individual patients are often not a reality. Various regimens are available for empirical treatment, based on combinations of a proton pump inhibitor (PPI) or potassium-competitive acid blocker (P-CAB) with antibiotics [2]. Since P-CABs (e.g., vonoprazan and tegoprazan) are mainly available in Asian countries, current strategies for treatment in most western countries consist of initial therapy with a quadruple concomitant regimen combining a PPI with amoxicillin, clarithromycin, and metronidazole (i.e., non-bismuth quadruple therapy; NBQT) or bismuth quadruple therapy (BQT).

Bismuth is an old therapy against two major gastrointestinal disorders—peptic ulcer disease and diarrhoea [3, 4]. At the beginning of the *H. pylori* era, it was shown that bismuth possesses antimicrobial properties; since then, bismuth compounds have been used with conventional antibiotics. Current European guidelines recommend NBQT or BQT as first-line options with similar evidence levels [5]. While classical BQT is limited by the non-availability of bismuth and tetracycline in many countries, the introduction of a single-capsule BQT (Sc-BQT, *Pylera*) has simplified administration. It has shown excellent efficacy as both first-line and rescue therapy, even in cases of dual resistance to clarithromycin and metronidazole [6, 7].

Nyssen et al. [8] have reported the results concerning the effectiveness and safety of NBQT versus Sc-BQT as first-line treatment. The study evaluated the Spanish cohort of the *H. pylori* European Registry with 13,787 patients; 7234 (52%) received NBQT and 6553 (48%) received Sc-BQT. Overall, Sc-BQT showed higher effectiveness than NBQT concerning *H. pylori* eradication rates (94% vs. 91%; $p < 0.001$). Adherence was similar with both treatments. The conclusion was that both treatments achieved ≥ 90% eradication rates, but Sc-BQT was more effective, better tolerated, and more broadly applicable than 14-day NBQT. Additionally, Sc-BQT's stewardship-friendly profile supports its use as the preferred first-line therapy for *H. pylori* infection. However, limitations of the study include its retrospective design and the fact that the report comes from a single country, which prevents us from drawing similar conclusions about other regions.

From all the above, it seems that old ingredients (i.e., bismuth) can successfully be used in new regimens (i.e., Sc-BQT) achieving ≥ 90% eradication rates. This fulfils the criteria of the Maastricht VI/Florence consensus report, which defined effective therapy as treatments that achieve *H. pylori* eradication rates of ≥ 90% [5].

World Journal of
Radiology

Submit a Manuscript: https://www.f6publishing.com

World J Radiol 2025 September 28; 17(9): 111493

DOI: 10.4329/wjr.v17.i9.111493

ISSN 1949-8470 (online)

SYSTEMATIC REVIEWS

Advances in ultrasound-based imaging for diagnosis of endometrial cancer

Mohamad Tlais, Hussein Hamze, Ali Hteit, Karim Haddad, Issam El Fassih, Issa Zalzali, Sally Mahmoud, Sabine Karaki, Diana Jabbour

Abstract

BACKGROUND

Endometrial cancer (EC) is the most common gynecological malignancy in high-income countries, with incidence rates rising globally. Early and accurate diagnosis is essential for improving outcomes. Transvaginal ultrasound (TVUS) remains a cost-effective first-line tool, and emerging techniques such as three-dimensional (3D) ultrasound (US), contrast-enhanced US (CEUS), elastography, and artificial intelligence (AI)-enhanced imaging may further improve diagnostic performance.

AIM

To systematically review recent advances in US-based imaging techniques for the diagnosis and staging of EC, and to compare their performance with magnetic resonance imaging (MRI).

METHODS

A systematic search of PubMed, Scopus, Web of Science, and Google Scholar was performed to identify studies published between January 2010 and March 2025. Eligible studies evaluated TVUS, 3D-US, CEUS, elastography, or AI-enhanced US in EC diagnosis and staging. Methodological quality was assessed using the QUADAS-2 tool. Sensitivity, specificity, and area under the curve (AUC) were extracted where available, with narrative synthesis due to heterogeneity.

CONCLUSION
TVUS remains a highly sensitive initial screening tool, with MRI preferred for definitive staging. 3D-US, CEUS, elastography, and AI-enhanced techniques show promise as complementary or alternative approaches, particularly in low-resource settings. Standardization, multicenter validation, and integration of multi-modal imaging are needed to optimize diagnostic pathways for EC.

Key Words: Endometrial cancer; Transvaginal ultrasound; Three-dimensional ultrasound; Contrast-enhanced ultrasound; Elastography; Artificial intelligence

Core Tip: This study provides a comprehensive review of evolving ultrasound (US)-based imaging techniques in the diagnosis of endometrial cancer (EC), emphasizing their clinical and technological advancements. It highlights the integration of three-dimensional US, contrast-enhanced US, elastography, and artificial intelligence (AI) to improve diagnostic precision, staging accuracy, and patient stratification. By comparing these modalities with magnetic resonance imaging and incorporating radiomics-based models, the review demonstrates how US, particularly when AI-enhanced, offers a cost-effective, accessible, and accurate alternative for early EC detection and management in diverse clinical settings.

CONCLUSION

Leveraging advanced US techniques and computational models to enhance diagnostic precision in EC is becoming pivotal in gynecologic oncology. TVUS and MRI show comparable diagnostic value, while radiomics-enhanced US models provide new avenues for risk prediction and personalized care. Future directions will likely focus on integrating AI and multi-modal imaging while addressing ethical and implementation challenges to ensure equitable and effective patient care.

Review

Hypothyroidism

A Review

Layal Chaker, MD, MPH, PhD[1,2,3]; Maria Papaleontiou, MD[4,5]

Author Affiliations | Article Information

RELATED ARTICLES MEDIA

Importance Hypothyroidism is a disease of thyroid hormone deficiency. The prevalence ranges from 0.3% to 12% worldwide, depending on iodine intake, and it is more common in women and older adults. Untreated hypothyroidism can cause serious health complications such as heart failure and myxedema coma.

Observations Hashimoto thyroiditis (an autoimmune disease) is the cause of primary hypothyroidism in up to 85% of patients with hypothyroidism living in areas with adequate nutritional iodine levels. The risk of developing hypothyroidism is associated with genetic factors (having a first-degree relative with hypothyroidism), environmental factors (iodine deficiency), undergoing neck surgery or receiving radiation therapy, pregnancy in the factors. Lower starting doses should be used for older patients or those with atrial fibrillation and coronary artery disease. Thyrotropin monitoring should be performed 6 to 8 weeks after initiating levothyroxine treatment, or when changing the dose, and then annually once the thyrotropin level is at goal to avoid overtreatment or undertreatment, both of which are associated with cardiovascular health risks.

Conclusions and Relevance Hypothyroidism may be associated with fatigue, weight gain, memory loss, difficulty concentrating, cardiovascular disease such as heart failure, menstrual irregularities, infertility, and increased risk of miscarriage. Levothyroxine is the first-line treatment to normalize the thyrotropin level and improve clinical manifestations due to

THE END