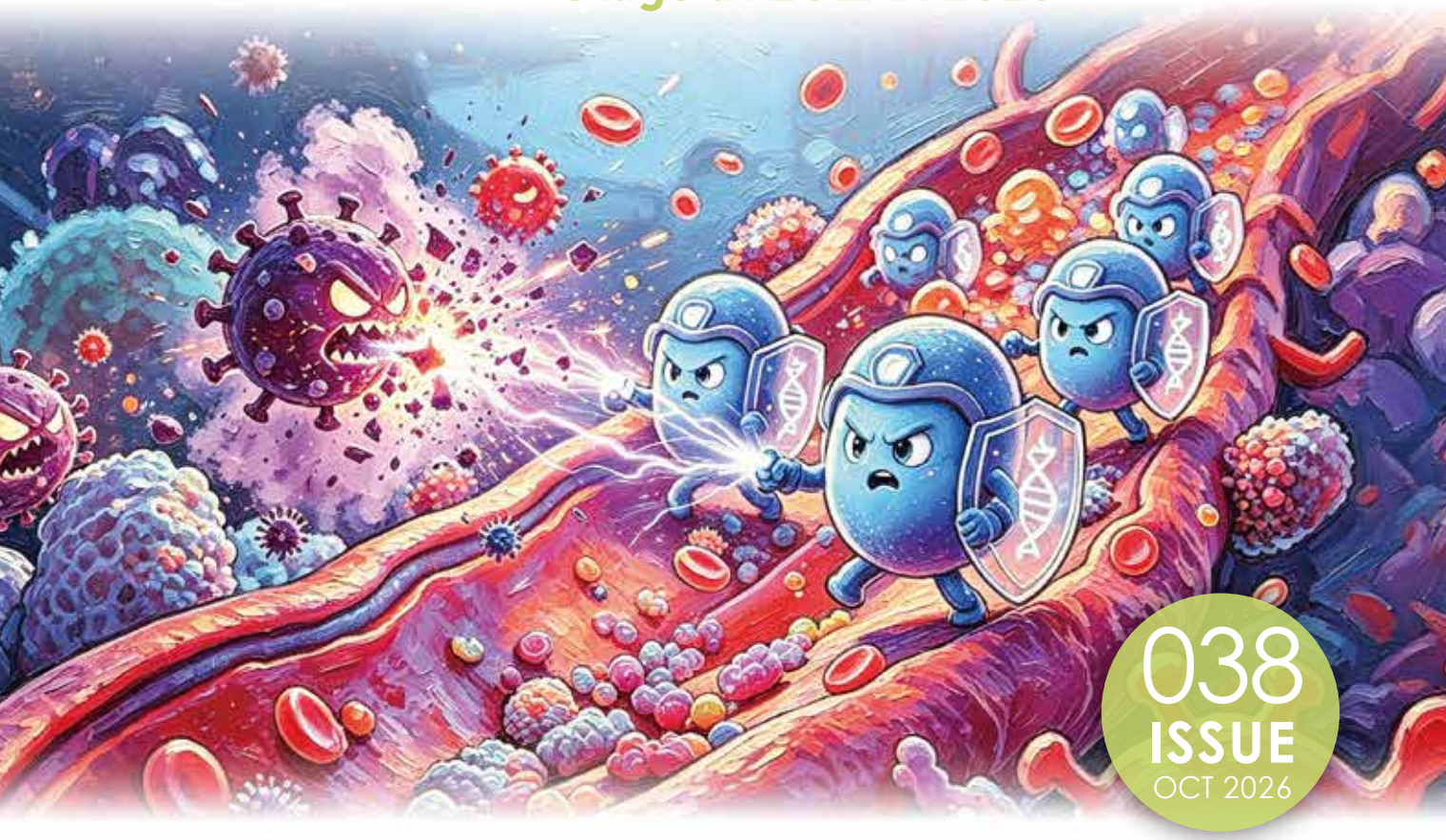
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The Immune Reset Revolution: CAR T-Cell Therapy Takes Centre Stage at EULAR 2026



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ISSUE
OCT 2026

FOCUS: The Future Is Continuous: Innovations Driving the Next Generation of Glucose Monitoring

The Roles of Tenofovir Alafenamide in Ensuring Sustainable Control of CHB with Concomitant MAFLD

Secure the Right Balance with Anabolic Agents for Osteoporotic Patients

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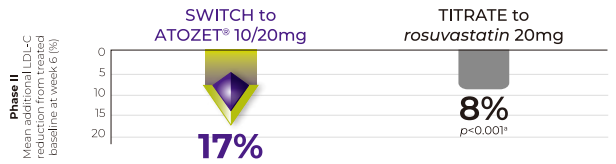
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PACE study phase II

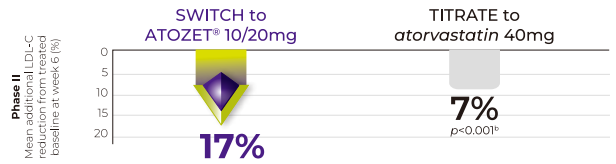
Efficacy of ATOZET® 10/20mg on switching from rosuvastatin 10mg or atorvastatin 20mg[1]

From *rosuvastatin* 10mg



Projected LDL-C reduction for hypothetical high-risk patients on atorvastatin 10mg at baseline, based on the results of the PACE study. Actual results may vary.

From *atorvastatin* 20mg



Projected LDL-C reduction for hypothetical high-risk patients on atorvastatin 10mg at baseline, based on the results of the PACE study. Actual results may vary.

At the end of Phase II, switching to ATOZET® 10/20mg provided significantly greater LDL-C reduction versus doubling to rosuvastatin 20mg or atorvastatin 40mg

No difference in adverse events between ATOZET® 10/20mg vs atorvastatin 40mg or rosuvastatin 20mg[1]



The image is for illustration purposes only.
Not actual size of the packshots, for illustration purpose only.

LDL-C = low-density lipoprotein cholesterol

[a]ATOZET® 10/20mg vs. rosuvastatin 20mg. [b]ATOZET® 10/20mg vs. atorvastatin 40mg

Study design: The PACE study was a randomized, double-blind, active-controlled, multicenter study of 1,547 patients aged 18 to <80 years with primary hypercholesterolemia and high CV risk who had LDL-C 2.6 mmol/L (100.5 mg/dL) and 4.14 mmol/L (160.1 mg/dL) while on atorvastatin 10mg. The study was split into 2 phases, each 6 weeks. Patients in phase I received ezetimibe 10mg add-on to atorvastatin 10mg vs. doubling atorvastatin to 20mg or switching to rosuvastatin 10mg. Phase II patients did not achieve an LDL-C target of <2.6 mmol/L (<100.5 mg/dL) after phase I, and received either the addition of ezetimibe 10mg to atorvastatin 20mg or doubled the atorvastatin dose from 20mg to 40mg,or switched from rosuvastatin 10mg to ezetimibe 10mg plus atorvastatin 20mg or doubled rosuvastatin to 20mg. Primary efficacy was the percent change from treated baseline LDL-C levels at the end of phase I. Secondary efficacy comparisons included the percentages of patients achieving LDL-C <2.6 mmol/L (<100.5 mg/dL) or <1.8 mmol/L (<69.6 mg/dL) among the same groups.

Reference: 1. Bays, H.E. et al. Efficacy and safety of ezetimibe added to atorvastatin versus atorvastatin uptitration or switching to rosuvastatin in patients with primary hypercholesterolemia. Am J Cardiol. 2013;112(12):1885-1895.

Abridged Prescribing Information/Selected Safety Information of ATOZET®

Selected Safety Information of ATOZET®

Indications: Prevention of Cardiovascular Events ATOZET is indicated to reduce the risk of cardiovascular events in patients with coronary heart disease (CHD) and a history of acute coronary syndrome (ACS), either previously treated with a statin or not. Hypercholesterolaemia ATOZET is indicated as adjunctive therapy to diet for use in adults with primary (heterozygous familial and non-familial) hypercholesterolaemia or mixed hyperlipidaemia where use of a combination product is appropriate: • patients not appropriately controlled with a statin alone • patients already treated with a statin and ezetimibe. Homozygous Familial Hypercholesterolaemia (HoFH) ATOZET is indicated as adjunctive therapy to diet for use in adults with HoFH. Patients may also receive adjunctive treatments (e.g., low-density lipoprotein [LDL] apheresis). Contraindications: • Hypersensitivity to the active substances or to any of the excipients. • Therapy with ATOZET is contraindicated during pregnancy and breast-feeding, and in women of child-bearing potential not using appropriate contraceptive measures. • ATOZET is contraindicated in patients with active liver disease or unexplained persistent elevations in serum transaminases exceeding 3 times the upper limit of normal (ULN). • ATOZET is contraindicated in patients treated with the hepatitis C antivirals glecaprevir/pibrentasvir. Precautions: • Myopathy/Rhabdomyolysis o In post-marketing experience with ezetimibe, cases of myopathy and rhabdomyolysis have been reported. Most patients who developed rhabdomyolysis were taking a statin concomitantly with ezetimibe. Rhabdomyolysis has been reported very rarely with ezetimibe monotherapy. o Also, ATOZET contains atorvastatin, which is a HMG-CoA reductase inhibitor. Atorvastatin may in rare occasions affect the skeletal muscle and cause myalgia, myositis, and myopathy that may progress to rhabdomyolysis. o A CPK level should be measured before starting treatment in the following situations: » Renal impairment, hypothyroidism, personal or familial history of hereditary muscular disorders. » Previous history of muscular toxicity with a statin or fibrate. » Previous history of liver disease and/or where substantial quantities of alcohol are consumed. » In elderly (age > 70 years), the necessity of such measurement should be considered, according to the presence of other predisposing factors for rhabdomyolysis. » Situations where an increase in plasma levels may occur, such as interactions. » If CPK levels are significantly elevated (>5 times ULN) at baseline, treatment should not be started. o Patients must be asked to promptly report muscle pain, cramps, or weakness especially if accompanied by malaise or fever or if muscle signs and symptoms persist after discontinuing ATOZET. • Daptomycin: Cases of myopathy and/or rhabdomyolysis have been reported with HMG-CoA reductase inhibitors (e.g. atorvastatin and ezetimibe/atorvastatin) co-administered with daptomycin. Caution should be used when prescribing HMG-CoA reductase inhibitors with daptomycin. • Myasthenia gravis and ocular myasthenia. o Atozet should be discontinued in case of aggravation of de novo or aggravate pre-existing myasthenia gravis or ocular myasthenia symptoms. • Liver Enzymes o Liver function tests should be performed before the initiation of treatment and periodically thereafter. Should an increase in transaminases of greater than 3 times the ULN persist, reduction of dose or withdrawal of ATOZET is recommended. • Hepatic Insufficiency o Due to the unknown effects of the increased exposure to ezetimibe in patients with moderate or severe hepatic insufficiency, ATOZET is not recommended. • Interstitial lung disease o If it is suspected a patient has developed interstitial lung disease, statin therapy should be discontinued. • Diabetes mellitus o Patients at risk (fasting glucose 5.6 to 6.9 mmol/L, BMI>30kg/m2, raised triglycerides, hypertension) should be monitored both clinically and biochemically according to national guidelines. • Excipients o ATOZET contains lactose. Patients with rare hereditary problems of galactose intolerance, total lactase deficiency, or glucose-galactose malabsorption should not take this medicine. Adverse reactions: • Common adverse reactions (≥1/100, <1/10) include diarrhoea and myalgia. • In controlled clinical trials, the incidence of clinically important elevations in serum transaminases (ALT and/or AST ≥3 X ULN, consecutive) was 0.6% for patients treated with ATOZET. These elevations were generally asymptomatic, not associated with cholestasis, and returned to baseline spontaneously or after discontinuation of therapy. • Please consult the full prescribing information for detailed adverse reactions.
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Dear Reader,

Welcome to the October 2026 issue of V.Pulse.

In this issue, our Feature Story highlights the exciting potential of CAR T-cell therapy in severe, treatment-resistant systemic lupus erythematosus (SLE) and other refractory rheumatic diseases. Presented at EULAR 2026, emerging clinical data suggest that immune system resetting through CAR T-cell therapy may offer unprecedented opportunities for deep and sustained remission.

In our Focus Section, we explore the remarkable advances in continuous glucose monitoring (CGM). Enhanced accuracy, greater accessibility, and growing integration with digital health platforms are expanding the role of CGM well beyond type 1 diabetes, shaping the future of metabolic health management.

This issue also features an extensive collection of Industry Update articles covering key pharmaceutical developments in Hong Kong, spanning chronic hepatitis B, osteoporosis, and ulcerative colitis.

Meanwhile, our Epoch Section examines recent reports highlighting record-high levels of depression and anxiety in Hong Kong, drawing attention to an increasingly important public health concern.

As always, our mission is to bring you concise, clinically relevant insights that connect medical innovation with everyday practice. Enjoy the read!

Warm regards,

Dr. Feng Xue
MPH, PhD
Managing Editor, V.Pulse

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References: 1. Janssen Announces U.S. FDA Approval of INVEGA HAFYERA™ (6-month paliperidone palmitate), First and Only Twice-Yearly Treatment for Adults with Schizophrenia. 2021. Available at: https://www.jnj.com/media-center/press-releases/janssen-announces-u-s-fda-approval-of-invega-hafyera-6-month-paliperidone-palmitate-first-and-only-twice-yearly-treatment-for-adults-with-schizophrenia
2. Correll CU et al. AMA Netw Open 2024;7:(7):e2421495. 3. INVEGA HAFYERA® Hong Kong Package Insert. Please refer to the latest approved version indicated with abbreviated PI. 4. Najarian D et al. Int J Neuropsychopharmacol 2022:25; 238–251.
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CP-564856 / Feb 2026

by Dr. Feng Xue

The Immune Reset Revolution: CAR T-Cell Therapy Takes Centre Stage at EULAR 2026



Systemic lupus erythematosus (SLE) remains one of the most complex autoimmune diseases in rheumatology, characterised by chronic immune dysregulation, autoantibody production, and multi-organ inflammation. Although advances in biologic and targeted therapies have improved outcomes, a substantial proportion of patients continue to experience refractory disease, recurrent flares, progressive organ damage, and treatment-related toxicity. At the European Congress of Rheumatology (EULAR) 2026 in London, several studies presented compelling evidence supporting the use of chimeric antigen receptor (CAR) T-cell therapy as a transformative treatment for severe, treatment-resistant autoimmune diseases. Early-phase clinical data demonstrated that CD19-directed and dual-target CAR T-cell therapies can induce profound depletion of autoreactive B cells, leading to sustained drug-free remission, immune reconstitution, and significant clinical improvement in patients with refractory SLE, systemic sclerosis (SSc), rheumatoid arthritis (RA), and related autoimmune disorders. Notably, findings from the CARLYSLE study of obecabtagene autoleucel (obe-cel) and the Phase 1/2 relmacabtagene autoleucel (relma-cel) trial revealed encouraging efficacy and manageable safety profiles in patients with severe lupus, including many with lupus nephritis. These results support the concept that CAR T-cell therapy may act as an "immune reset," rather than merely suppressing disease activity. This article reviews the scientific rationale, clinical evidence, safety considerations, and future implications of CAR T-cell therapy in SLE and refractory rheumatic diseases, with a focus on key presentations delivered at EULAR 2026.

Introduction

The treatment landscape for systemic lupus erythematosus has evolved considerably over the past two decades. Conventional immunosuppressive agents, including glucocorticoids, cyclophosphamide, mycophenolate mofetil, and azathioprine, have long formed the foundation of therapy. More recently, biologic agents such as belimumab and anifrolumab have improved disease management by targeting specific immune pathways.[1]

Despite these advances, a considerable unmet need persists. Many patients experience persistent disease activity despite multiple lines of therapy, while others develop irreversible organ damage due to lupus nephritis, neuropsychiatric lupus, or cardiovascular complications. Long-term exposure to corticosteroids also contributes substantially to morbidity.[2]

Against this backdrop, CAR T-cell therapy has emerged as one of the most exciting developments in autoimmune disease treatment. Originally developed for hematologic malignancies, CAR T-cell technology



has now entered the field of rheumatology, where it is demonstrating the potential to induce deep and durable remissions in diseases previously considered incurable.[3]

At EULAR 2026, investigators from Europe and China presented a growing body of evidence suggesting that CAR T-cell therapy may fundamentally alter disease trajectories for patients with severe autoimmune disorders. The data support a paradigm shift from chronic immunosuppression toward immune system reprogramming and restoration.[4]

Understanding CAR T-Cell Therapy

CAR T-cell therapy involves collecting a patient's own T lymphocytes, genetically modifying them to express a chimeric antigen receptor (CAR), and reinfusing them following lymphodepleting chemotherapy. The engineered receptor enables T cells to recognise and eliminate specific target cells. In autoimmune diseases, most CAR T-cell strategies target CD19, a protein expressed on B cells (**Figure 1**).[5]

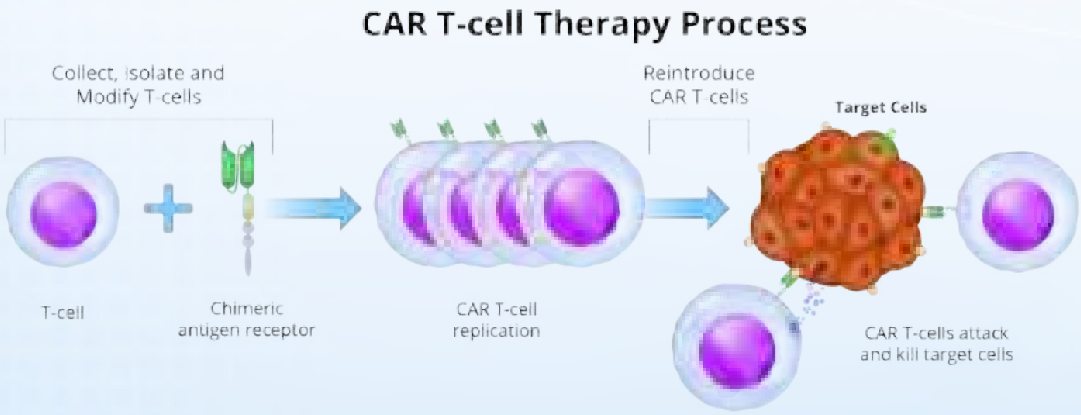


Figure 1. *CAR T-cell Therapy Process*[5]

The rationale is straightforward. B cells play a central role in autoimmune disease pathogenesis through autoantibody production, antigen presentation, cytokine secretion, and activation of autoreactive T cells.[6]

In SLE, autoreactive B cells generate pathogenic antibodies such as anti-double-stranded DNA antibodies that contribute directly to tissue injury. Eliminating these B cells may therefore interrupt multiple disease-driving mechanisms simultaneously. Importantly, CAR T-cell therapy appears capable of eliminating not only circulating B cells but also pathogenic memory B-cell populations that may evade conventional therapies such as rituximab. After depletion, the immune system may regenerate with a less autoreactive B-cell repertoire, creating what investigators increasingly describe as an "immune reset."[4]

Why an Immune Reset Matters in Lupus

Traditional lupus therapies suppress components of the immune system but generally do not eradicate the underlying autoreactive immune memory responsible for disease recurrence. Consequently, managing this condition requires a long-term approach because relapses are frequent. Over time, medications can cause toxic build-up in the body, and organ damage may unfortunately continue to advance even with ongoing treatment.[3]

CAR T-cell therapy offers a fundamentally different approach. By profoundly depleting pathogenic B cells and allowing new B-cell populations to develop, it may effectively reboot immune function. Several earlier studies published before EULAR 2026 demonstrated sustained remission in severe SLE following a single CAR T-cell infusion. The EULAR 2026 presentations extend these observations into larger patient populations and longer follow-up periods, strengthening confidence that durable immune reprogramming is achievable.[7]

CARLYSLE: Obecabtagene Autoleucel in Refractory Lupus

One of the most anticipated presentations at EULAR 2026 came from the CARLYSLE Phase I trial led by investigators at University College London and University College London Hospitals. The study evaluated obecabtagene autoleucel (obe-cel), a CD19-directed CAR T-cell therapy, in patients with severe refractory SLE who had failed multiple conventional and biologic therapies.[4]

Patient Characteristics[4]

Patients enrolled in CARLYSLE were:

- Aged 12 to 65 years
- Diagnosed with active severe SLE
- Refractory to multiple prior therapies
- Frequently affected by lupus nephritis

At the interim analysis presented at EULAR 2026, nine adult patients had received treatment. Most exhibited highly active disease and significant organ involvement.

Safety Findings[4]

One of the most encouraging aspects of the study was the favourable safety profile.

Investigators reported:

- No moderate or severe cytokine release syndrome (CRS)
- No immune effector cell-associated neurotoxicity syndrome (ICANS)
- One reversible dose-limiting liver toxicity
- Manageable infectious and haematologic adverse events

These findings are particularly important because CRS and neurotoxicity have historically represented major concerns with CAR T-cell therapies in oncology. The apparent reduction in severe toxicities raises the possibility that autoimmune disease patients may experience a more favourable risk-benefit profile.

Clinical Response[4]

Beyond safety, investigators observed substantial reductions in lupus disease activity following treatment. Clinical improvements were accompanied by profound depletion of CD19-positive B cells, consistent with the proposed mechanism of action. The findings suggest that immune reconstitution following B-cell depletion may translate into meaningful clinical benefit across multiple organ systems.

Relma-cel Phase 1/2 Trial: Deep Responses in Lupus

Another important EULAR 2026 presentation focused on relmacabtagene autoleucel (relma-cel), a CD19-directed autologous CAR T-cell therapy evaluated in China. The Phase 1 portion enrolled eight women with moderately to severely active SLE, all of whom had active organ involvement and had previously received at least two classes of standard lupus treatment.[8]

Remarkable Efficacy

Following relma-cel infusion, all patients achieved an SLE Responder Index 4 (SRI-4) response at six months, with six patients meeting the Lupus Low Disease Activity State (LLDAS) criteria and five achieving the Definition of Remission in SLE (DORIS) remission. Improvements in renal function and complement levels were also observed. These results are particularly

notable given the severity of disease among enrolled patients and their history of treatment failure.[8]

Safety Outcomes

Safety outcomes were encouraging. No dose-limiting toxicities were reported. Adverse events were manageable, with CRS occurred in seven patients and ICANS in one patient. Importantly, investigators concluded that the therapy demonstrated both favourable safety and promising clinical efficacy, supporting progression into Phase 2 evaluation.[8]

Beyond Lupus: Expanding CAR T-Cell Therapy Across Rheumatology

A major theme at EULAR 2026 was the expansion of CAR T-cell therapy beyond SLE. Researchers presented data in systemic sclerosis, rheumatoid arthritis, inflammatory myopathies, and other severe autoimmune diseases, suggesting that immune-reset strategies may have broad applicability.[7]

Dual-Target CAR T Therapy in Systemic Sclerosis

Systemic sclerosis is characterised by immune activation, vasculopathy, and progressive fibrosis affecting the skin and internal organs.[9] At EULAR 2026, investigators reported outcomes from eleven patients treated with dual-target CD19/B-cell maturation antigen (BCMA) CAR T-cell therapy. Results included:[7]

- Rapid and sustained B-cell depletion
- Significant improvement in skin thickness
- Improvement in functional disability scores
- Stabilisation or improvement of interstitial lung disease
- Regression of fibrotic lung abnormalities on imaging
- No disease flares during follow-up

Approximately 73% of patients achieved low disease activity, highlighting the potential of CAR T-cell therapy to modify disease progression even in severe fibrotic disorders.[7]

Rheumatoid Arthritis Data Signal Broader Potential

EULAR 2026 also featured findings from the COMPARE trial evaluating CD19-directed CAR T-cell therapy in treatment-refractory rheumatoid arthritis. Key observations included:[7,10]

- Substantial reductions in disease activity scores
- Significant declines in autoantibody levels
- Sustained remission in several patients
- Discontinuation of immunosuppressive therapy in most participants

Importantly, analyses suggested that CAR T-cell therapy eliminated pathogenic B-cell clones within synovial tissue, supporting the concept that immune reconstitution may extend beyond peripheral blood into diseased tissues.[7,10]

Mechanisms of Durable Remission

The durability of remission observed following CAR T-cell therapy raises important mechanistic questions. Several lines of evidence suggest that sustained responses are not merely a consequence of temporary B-cell depletion. Investigators have observed:[11]

- Elimination of autoreactive memory B cells
- Reduction in pathogenic autoantibodies
- Reconstitution of naïve B-cell populations
- Decreased interferon signalling
- Reprogramming of adaptive immune responses
- Reduction in inflammatory cytokine networks

Multi-omic analyses presented at EULAR 2026 further suggested coordinated remodelling of both immune and stromal pathways, particularly in systemic sclerosis, indicating that CAR T-cell therapy may exert effects extending beyond simple B-cell removal.[11,12]

Remaining Challenges

Despite remarkable enthusiasm, several challenges remain before CAR T-cell therapy can become routine clinical practice.

Cost and Accessibility

CAR T-cell therapy remains expensive and logistically intensive. Manufacturing personalised cellular products requires specialised facilities and extensive infrastructure.[13]

Long-Term Safety

Long-term follow-up is still limited. Questions remain regarding infection risk, secondary malignancies, hypogammaglobulinemia, and durability beyond several years.[14-17]

Patient Selection

The optimal patient population remains to be defined. Current studies largely focus on highly refractory disease, whereas future research may determine whether earlier intervention offers superior outcomes.[18]

Comparative Effectiveness

Randomised studies comparing CAR T-cell therapy against established biologics and targeted therapies will be critical for determining its place in treatment algorithms.[17]

Moving Forward

The field is evolving rapidly. Several innovations are under investigation:[19,20]

- Dual-target CAR constructs (CD19/BCMA)

- Faster manufacturing platforms
- Off-the-shelf allogeneic CAR products
- CAR-natural killer (CAR-NK) cell therapies
- Alternative autoimmune disease targets

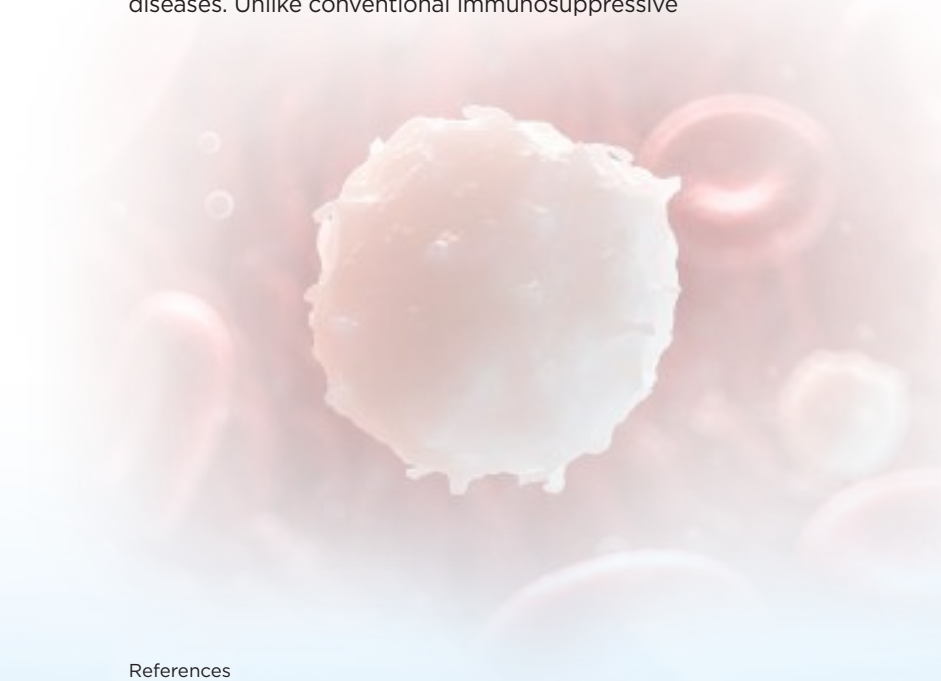
As clinical experience expands, CAR T-cell therapy may ultimately move from a rescue therapy for refractory disease to a disease-modifying intervention capable of inducing sustained, treatment-free remission.[21]

Conclusion

The presentations delivered at EULAR 2026 represent a watershed moment in autoimmune disease therapeutics. Emerging evidence from the CARLYSLE study, the relma-cel Phase 1/2 trial, and investigations in systemic sclerosis and rheumatoid arthritis demonstrate that CAR T-cell therapy can induce deep, durable remissions in patients with severe, treatment-resistant rheumatic diseases. Unlike conventional immunosuppressive treatments, CAR T-cell therapy appears capable of fundamentally reprogramming immune function through elimination of autoreactive B cells and subsequent immune reconstitution.

Safety profiles reported to date have generally been manageable, with lower-than-expected rates of severe cytokine release syndrome and neurotoxicity. Although longer follow-up and larger randomised studies remain necessary, current findings strongly support the concept of an “immune reset” as a novel therapeutic paradigm.

If ongoing trials confirm these early results, CAR T-cell therapy may transform the management of SLE and other refractory autoimmune diseases, potentially enabling sustained remission, reduced treatment burden, and improved long-term outcomes for patients who currently have limited therapeutic options.



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References

1. VKirou KA, et al. Front Immunol. 2022;13:980079. **2.** Gandolfo S, et al. J Autoimmun. 2026;164:103617. **3.** Mackensen A, et al. Nat Med. 2022;28(10):2124–32. **4.** Medical Xpress. CAR T-cell therapy shows early promise in severe lupus. 15 June 2026. Available from: https://medicalxpress.com/news/2026-06-car-cell-therapy-early-severe.html. [Accessed 26 August 2026]. **5.** Rocky Mountain MS Center. CAR T-Cell Therapy: A New Frontier for Treating Autoimmune Diseases. Available from: https://mscenter.org/article/car-t-cell-therapy-a-new-frontier-for-treating-autoimmune-diseases/. [Accessed 26 August 2026]. **6.** Hampe CS. Scientifica (Cairo). 2012;2012:215308. **7.** RheumNow. CAR-T Therapy: EULAR 2026 Conference Recap. 9 July 2026. Available from: https://rheumnow.com/news/car-t-therapy-eular-2026-conference-recap. [Accessed 26 August 2026]. **8.** Wang Y, et al. J Autoimmun. 2025;157:103489. **9.** Potjewijd J, et al. Expert Rev Clin Immunol. 2026;22(5):463–79. **10.** Albach FN, et al. Nat Med . 2026 Aug 27. doi: 10.1038/s41591-026-04603-3. Online ahead of print. **11.** JW Therapeutics. EULAR 2026: JW Therapeutics Presents Two Positive Study Results of Relma-cel for SLE and SSc at the European Congress of Rheumatology. 9 June 2026. Available from: https://www.jwtherapeutics.com/en/media/press-release/20260609/. [Accessed 26 August 2026]. **12.** Mukherjee A. Clinical Immunology Communications. 2025; 8: 60–74. **13.** Shah M, et al. Front Transplant. 2023;2:1238535. **14.** Arya S and Shahid Z. Front Oncol. 2024;14:1398078. **15.** Lee E, et al. Blood Res. 2026;61(1):30. **16.** Bishop MR. Hematology Am Soc Hematol Educ Program. 2024;2024(1):109–15. **17.** Cheng J, et al. Clin Exp Med. 2026;26(1):177. **18.** Sioud M and Casey NP. Int J Mol Sci. 2026;27(2):909. **19.** Cooper ML, et al. Off-the-Shelf CAR-T. In: Ghobadi A and DiPersio JF (eds). Gene and Cellular Immunotherapy for Cancer. Cancer Drug Discovery and Development. Humana, Cham; 2022. **20.** Hoi A. Lancet. 2026;406(10522):2872–4. **21.** Müller F, et al. Nat Med. 2026;32(3):1142–51.

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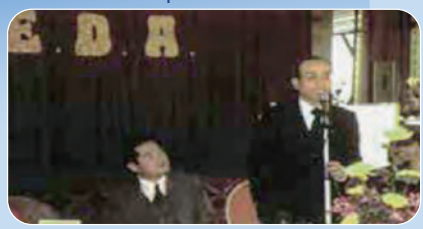
About HKDU

Founded in 1966 as the "Low-Cost Clinics Doctors Management Committee" serving as the liaison body among its members, professional organisations, and the Government. With the expansion of its scope of services and professional roles, the organisation changed its name to Hong Kong Doctors Union Ltd. (HKDU) in 2000.

In future, the HKDU will continue humbly listening and keep on improving in our role as the channel between local medical doctors and our society.

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Community services









The liaison body between medical doctors and government departments





Member activities









by Dr. Roy Lau

The Roles of Tenofovir Alafenamide in Ensuring Sustainable Control of CHB with Concomitant MAFLD



Dr. Vincent Wai Sun Wong
Specialist in Gastroenterology and Hepatology

Apart from the chronic infections with hepatitis B virus (HBV) and hepatitis C virus (HCV), the role of non-viral risk factors in the development of chronic liver diseases has attracted clinical concern. Particularly, the co-existence of metabolic dysfunction-associated fatty liver disease (MAFLD) in patients with chronic hepatitis B (CHB) is increasingly common, and the associated impact has been recognized[1]. Nonetheless, the interplay between CHB and MAFLD has been poorly studied. To uncover the essence of managing CHB patients with co-existing MAFLD in local settings, Dr. Vincent Wong discussed the clinical challenges of the dual etiology of CHB and MAFLD and shared his opinions on optimizing the management of the disease.

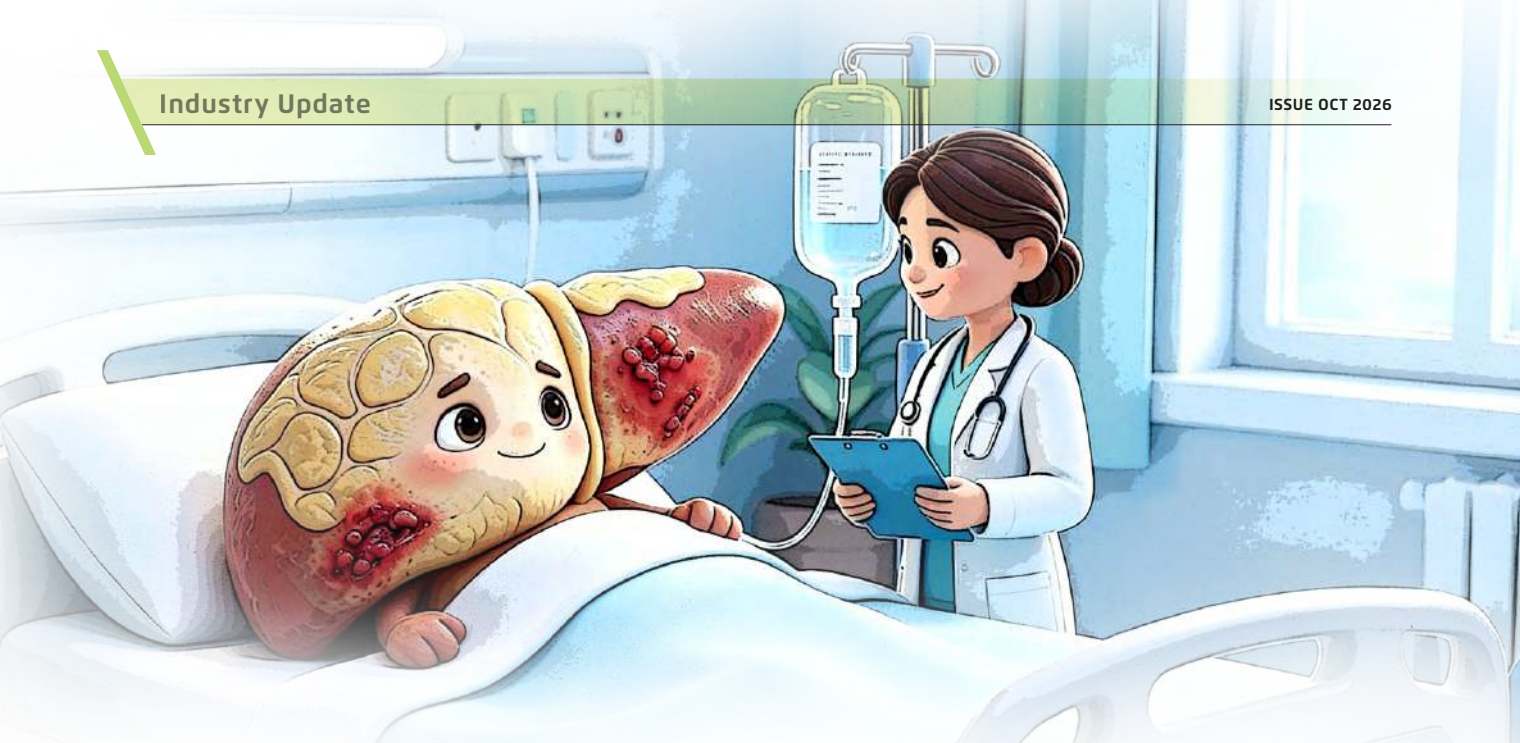
The Rising Clinical Challenge of Dual Etiology

MAFLD encompasses a spectrum of liver abnormalities ranging from simple steatosis to non-alcoholic steatohepatitis, and it can progress to cirrhosis and even hepatocellular carcinoma (HCC). Along with the global rise in obesity and type 2 diabetes (T2D), the prevalence of MAFLD has been increasing, and thus patients harboring both CHB and MAFLD are commonly encountered[2].

A recent global meta-analysis of 636 studies by Li. *et al* (2025) revealed that the prevalence of steatotic liver disease (SLD) among patients infected with HBV was 36%[3]. Notably, Dr. Wong noted that there are variations in the estimated prevalence among studies, and selection bias can be one of the possible reasons. In addition, diagnostic methods also contributed to the heterogeneity in estimating prevalence. For instance, SLD detected by liver biopsy or controlled attenuation parameter exceeded 40%, whereas that detected by ultrasound or other non-invasive methods was <30%[3]. Regarding local MAFLD prevalence among CHB patients, Dr. Wong shared the findings of a cross-sectional population study by his team, which involved 91 CHB patients and 922 non-CHB controls. Revealed by proton-magnetic resonance spectroscopy, the prevalence of MAFLD was 13.5% in HBV patients and 28.3% in controls[4]. Therefore, he commented that, while MAFLD and CHB are prevalent in Hong Kong, so is their co-existence.

A Closer Look at the Impacts of MAFLD in Patients with CHB

The impact of co-existing MAFLD on the outcome of CHB has been controversial. Some studies advocated that the presence of MAFLD leads to fibrotic progression and increased the risk of adverse liver outcomes, while others reported the observation of a lower viral load, reduced incidence of cirrhosis and HCC[5]. The meta-analysis of 34 studies accounting for 68,268 CHB patients by Mao *et al.* (2022) indicated that hepatic steatosis would increase the risk of HCC and cirrhosis by 59% and 52%, respectively, compared with those who had CHB only (**Figure 1A and 1B**). However, the



co-existence of CHB and MAFLD comes with a higher chance of achieving a functional cure (odds ratio [OR]: 2.22)[6].

Regarding the inconsistency among studies, Dr. Wong explained that it is not certain whether the adverse liver outcomes are caused by MAFLD or other metabolic risk factors. "A higher risk of adverse liver outcomes has been reported among CHB patients with metabolic disorders, such as T2D and obesity. However, many of these patients also had MAFLD. We cannot tell whether the liver outcomes are caused by MAFLD or the metabolic disorders," he stated. On the other hand, Dr. Wong highlighted that the "burning-out" phenomenon, which refers to the continuous hepatic fat loss accompanied by fibrosis progression, would be observed in advanced MASLD. The condition is associated with high rates of all-cause mortality, liver-related events, and hepatic decompensation[7]. Essentially, Dr. Wong noted that "burning-out" MAFLD would increase the risk of misclassifying the patients as non-MAFLD.

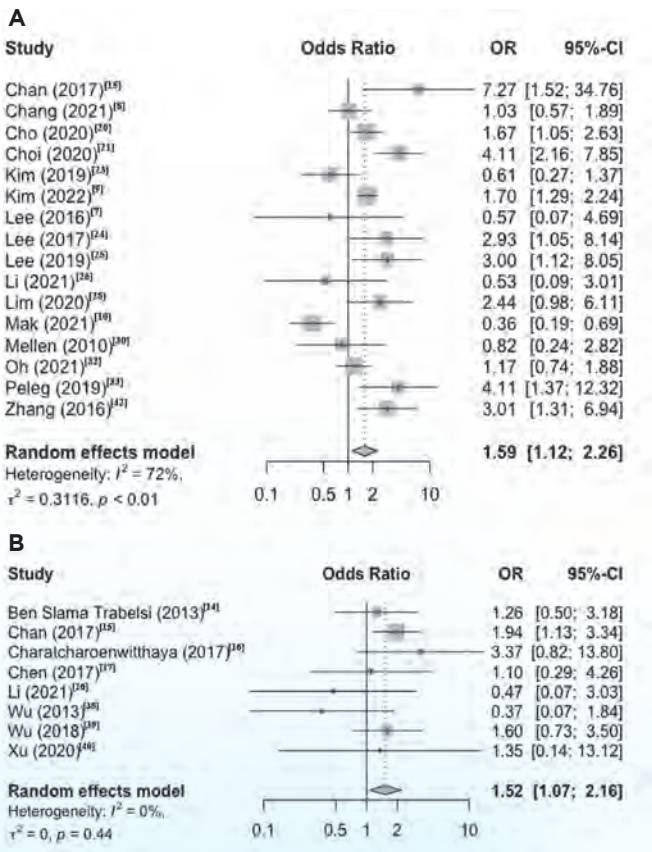


Figure 1. Forest plots of the impact of hepatic steatosis on the risk of (A) HCC and (B) cirrhosis[6]

Dr. Wong opined that disease progression is more rapid in patients with co-existing liver-related risk factors, such as alcohol consumption and co-infection with another hepatitis virus, compared with those who are infected only with HBV. Remarkably, systemic metabolic dysfunctions are highly correlated with chronic low-grade inflammation, profound insulin resistance, and elevated oxidative stress. Besides, lipid accumulation triggers robust intra-hepatic immune modulation involving the release of endogenous antiviral cytokines, such as interleukin-6 (IL-6) and tumor necrosis factor-alpha (TNF-α). This lipotoxic and pro-inflammatory milieu synergistically amplifies HBV-mediated hepatic injury, accelerating fibrogenesis and establishing a robust pro-oncogenic microenvironment for HCC[5].

Managing Patients with Concomitant MAFLD and CHB

The comorbid presence of MAFLD and CHB poses challenges for clinical management across multiple domains, including screening, diagnosis, and treatment. Dr. Wong emphasized treating CHB with concomitant MAFLD should not focus solely on a single disorder but a holistic care targeting patients' overall well-being is essential. He addressed the key challenge in managing this group of patients that, when increased

liver enzymes are detected, there is no diagnostic tool to identify the primary cause, whether it is CHB, MAFLD, or both. "Although liver biopsy may be helpful, the procedure is invasive and practically uncommon," he commented.

On the other hand, Dr. Wong mentioned that existing clinical data focus primarily on a single disease, whereas studies involving patients with CHB and MAFLD are rare. Accordingly, healthcare professionals (HCPs) need to extrapolate the treatment outcomes for these patients. Practically, clinical guidelines advocate prescribing antivirals when fluctuating or persistently abnormal serum ALT and HBV DNA levels are >2000 IU/ml. In patients with significant fibrosis, antiviral treatment is also recommended, regardless of HBV DNA or alanine aminotransferase (ALT) levels[8].

Moreover, Dr. Wong emphasized the importance of monitoring the occurrence of metabolic disorders and timely treatment that effective control of metabolic disorders would improve both metabolic and liver outcomes. His comment aligned with a recent study by Kang *et al.* (2026), which reported a reduction in the incidence of liver-related events, including HCC, in patients with concurrent diabetes and chronic hepatitis B/C by sodium-glucose cotransporter-2 inhibitor (SGLT2i) treatment[9].

Selecting the Most Appropriate Antiviral at the First Instance

Currently, entecavir (ETV), tenofovir disoproxil fumarate (TDF), and tenofovir alafenamide (TAF) are the 3 first-line oral nucleos(t)ide analogs (NUCs) recommended for CHB treatment by major guidelines by virtue of the effectiveness of virological inhibition and high genetic barrier to resistance[10]. Interestingly, a recent retrospective analysis of 493 CHB patients treated with ETV or TAF by Lee and Jin (2026) showed that more patients in the TAF group achieved >10% quantitative hepatitis B surface antigen (HBsAg) decline at 12 months (63.0% vs. 55.8%, p=0.009) and 24 months (81.7% vs. 65.1%, p<0.001, **Figure 2**). Of note, the TAF group demonstrated a stable median eGFR change compared to the ETV group (0.0 vs. -6.0, p=0.003) at 24 months. Further, the changes in low-density lipoprotein-cholesterol (LDL-C) levels were not significantly different between the two groups[11]. The results thus suggested that TAF yielded a significantly higher proportion of quantitative HBsAg reduction and a superior renal safety profile than ETV, without significant differences in LDL-C changes.

Aside from the comparison between ETV and TAF, Dr. Wong noted that both TDF and TAF are effective in suppressing HBV, with >90% of patients having their HBV load suppressed. He added that, as most CHB patients on TAF or TDF need prolonged treatment, the long-term safety profile of these therapies has to be considered.

The long-term efficacy and safety of TDF and TAF were demonstrated in the 8-year results of the Study 108/110. In the studies, CHB patients were randomly assigned (2:1) to double-blind TAF 25 mg/day or TDF 300 mg/day for up to 3 years, followed by open-label (OL) TAF through year 8. At year 8, among patients who received TAF for 8 years (TAF8y, n=647), those who switched from TDF to TAF at year 2 (TDF2y→TAF6y, n=154), and those who switched at year 3 (TDF3y→TAF5y, n=173), 95%, 94% and 97% (missing-equals-excluded) of patients, respectively, achieved HBV DNA <29 IU/ml. Particularly, eGFR and hip/spine bone mineral density (BMD) remained stable in patients receiving double-blind/OL TAF, with only small declines at year 8.

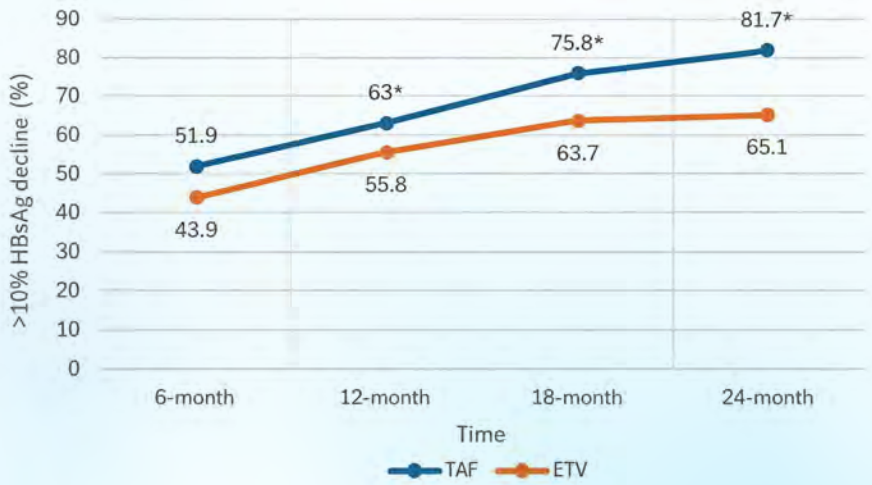


*Figure 2. Proportion of patients achieved >10% quantitative HBsAg decline[11], *p<0.05*

Remarkably, decreases in eGFR and hip/spine BMD observed during double-blind TDF improved after switching to OL TAF. The results further reported no cases of TAF resistance[12]. These results demonstrated that long-term TAF treatment exhibited favorable safety and tolerability, with high rates of viral suppression and no development of resistance. Particularly, switching from TDF to TAF appeared to improve renal and bone impairment associated with TDF treatment.

Apart from viral suppression, Dr. Wong emphasized the importance of early ALT normalization. In the study involving 610 CHB patients by Kim *et al.* (2021), the cumulative incidence of HCC after 8 years was significantly lower among patients who showed ALT normalization at 1 year (n=397) than in the non-normalization group (6.8% vs. 16.9%, p<0.001)[13]. The findings highlighted the importance of early ALT normalization. Notably, the real-world study involving 391 CHB patients by Wu *et al.* (2024) demonstrated that the ALT normalization rate was significantly higher in the TAF group (72.2%) compared to the TDF group (50.6%) and TDF+telbivudine (LdT)/ETV group (45%) at 48 weeks (P < 0.05)[14]. According to published clinical data, TAF was demonstrated to be effective in HBV suppression and superior in terms of ALT normalization.

Act Now to Optimize Long-term Outcomes

According to Study 108/110, a decline in eGFR and BMD was observed with long-term TDF treatment, whereas the renal and bone impairment could be improved by switching from TDF to TAF[12]. The outcomes of switching from ETV to TAF have attracted clinical interest. For instance, the real-world prospective study, which included 351 ETV-experienced CHB patients with low-level viremia (LLV), by He *et al.* (2025) indicated that, at 48 weeks after switching from ETV to TAF, the complete virological response (CVR) and ALT normalization rates in the TAF group were 75.3% and 67.8%, which were significantly higher than 11.4% and 17.1% in the ETV group (p<0.001), with non-inferior renal safety and lipid profiles[15]. The findings were supported by a recent retrospective observational study of 34 CHB patients by Fukushima *et al.* (2026), which indicated greater declines in hepatitis B core-related antigen (HBcrAg) after 2 years for switching from ETV to TAF than those continuing ETV (−0.20 vs. −0.10 log U/ml, p=0.007)[16]. The findings suggested that switching to TAF would enhance viral suppression and ALT normalization.

Remarks on Managing CHB with Concomitant MAFLD

While ETV, TDF, and TAF are recommended as first-line therapy for CHB, recent clinical data suggest that TAF is effective in suppressing HBV and facilitating early achievement of ALT normalization, without impairing renal function and bone quality. Nonetheless, it has been reported that TAF would slightly increase blood cholesterol levels. In this regard, Dr. Wong commented that the impact of TAF on blood cholesterol level is not clinically significant and can be readily managed. Of note, a retrospective analysis by Kim *et al.* (2025) revealed no significant increase in the incidence of major adverse cardiovascular events among patients received TAF versus those who had TDF (p=0.853) though a higher incidence of hyperlipidemia was observed[17].

The interaction between CHB and MAFLD is dynamic and stage-dependent. Early metabolic activation may transiently suppress HBV replication, whereas progressive steatohepatitis and metabolic dysfunction promote fibrosis and hepatocarcinogenesis. This explains the persistently high HCC risk despite viral suppression and underscores that antiviral therapy must be combined with metabolic management[18]. As a final remark, Dr. Wong highlighted that aging has become prevalent among CHB patients and co-morbidities, particularly metabolic disorders such as MAFLD, are common among these patients. Enhancing awareness of metabolic disorders followed by timely treatment is essential for ensuring optimal outcomes in managing CHB patients.

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References

1. Zhu *et al.* Infectious Diseases and Therapy 2025; 14:1599–617. **2.** Shen *et al.* Exp Ther Med 2024; 27:99. **3.** Li *et al.* Hepatol Commun 2025; 9(5):e0689. **4.** Wong *et al.* J Hepatol 2012; 56: 533–40. **5.** Huang *et al.* Clin Mol Hepatol 2026 Jun 25. doi: 10.3350/cmh.2026.0387. Online ahead of print. **6.** Mao *et al.* Hepatology 2023; 77:1735–45. **7.** Liu *et al.* Gastroenterology 2025; 169:326-336.e4. **8.** Easterbrook *et al.* Lancet Gastroenterol Hepatol 2024; 9:493–5. **9.** Kang *et al.* Cancers (Basel) 2026; 18:120. **10.** Li *et al.* Int J Gen Med 2025; 18:1143–53. **11.** Lee *et al.* J Med Virol 2026; 98:e70958. **12.** Buti *et al.* Aliment Pharmacol Ther 2024; 60:1573–86. **13.** Kim *et al.* Journal of Clinical Medicine 2021;10(9):1840. **14.** Wu *et al.* Scientific Reports 2024; 14:21656. **15.** He *et al.* Antimicrob Agents Chemother 2025;69(3):e0182724. **16.** Fukushima *et al.* Journal of Clinical Medicine 2026; 15:4021. **17.** Kim *et al.* Hepatol Int 2025;19:959-67. **18.** Tao *et al.* Front Immunol 2026; 17:1817642.

by Jasmine Lai

Secure the Right Balance with Anabolic Agents for Osteoporotic Patients

Osteoporosis can be likened to a "reverse tumour": a progressive bone disease marked by declining bone mass and density[1]. In Hong Kong, with its rapidly ageing population and world-leading life expectancy, the burden of osteoporosis only grows in concern[2]. Zuellig Pharma convened a scientific symposium gathering leading orthopaedic surgeons from Hong Kong and overseas, to illuminate the key role Forteo plays in fracture risk reduction and bone mineral density.

The Orthopaedic Surgeon's Role in Fragility Treatment and Long-term Fracture Care



Professor Cristiano Coppola

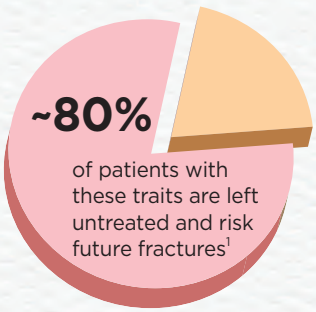
Resident Senior Orthopaedic Surgeon at Consultant Level at the Trauma Center, Department of Orthopaedics & Traumatology, High Specialty Center Ospedale del Mare, Italy

The Treatment Gap Between Repair and Prevention of Fragility Fractures

Osteoporotic Cascade:
Escalating Fragility Fracture Risk

- Risk of second major osteoporotic fracture after a first **increases by 4% for each year of age**[3]
- Prior fractures predict **fracture risk for up to 10 years**[3]

Prior fragility fracture + **Family history of hip fracture** are associated with a **very high risk of refracture**[4]



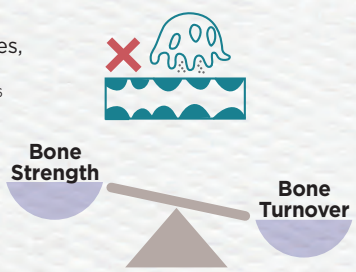
IOF/ESCEO Guidelines:
Osteoporotic Fracture Treatment Pathway[4]

Very high risk: *Optimise calcium and vitamin D status* → *Risk appropriate exercise and falls prevention* → ***Consider anabolic agent followed by bone resorption inhibitor***

Antiresorptive Medication:
Tipping the Scales in Bone Health

With long-term use, some antiresorptives target osteoclasts, leading to:

- Depth of resorptive sites, cortical porosity and overall bone turnover[5,6]
- Mineralisation[7]



Resorption without sufficient bone turnover may **lead to bone fragility**[8]:

- **Bone age**
- **Hypermineralisation**
- **Rigidity**
- **Microcracks**
- **Remodelling**
- **Microcrack repair**

Forteo is an Anabolic Agent for Fracture Risk Reduction and Improving Bone Mineral Density[9]



New bone formation[10]

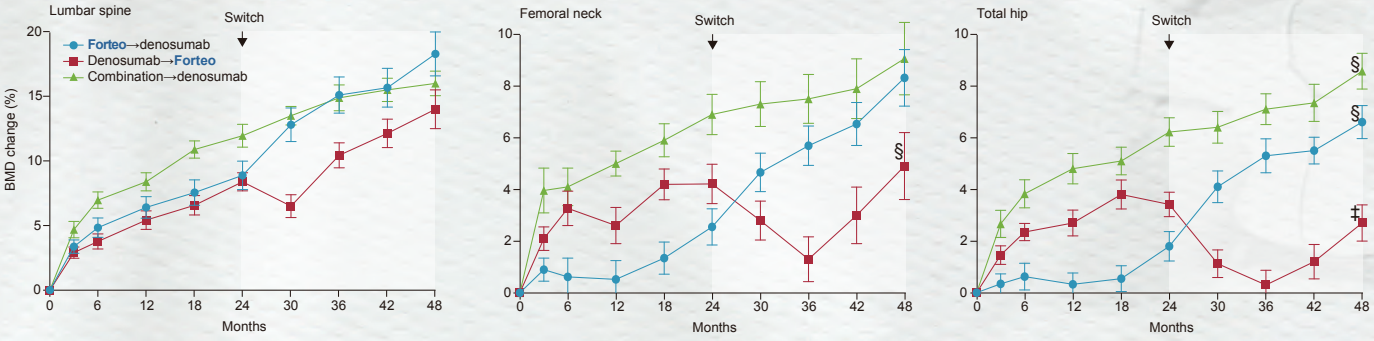
Pre-treatment → **Post-Forteo**

BMD
Trabecular bone volume
Cortical thickness
Connectivity

Fig. 1. *Micro-computed tomography images of paired iliac crest bone biopsies in a postmenopausal woman with osteoporosis (age 62, treated for 22 months).*[10]

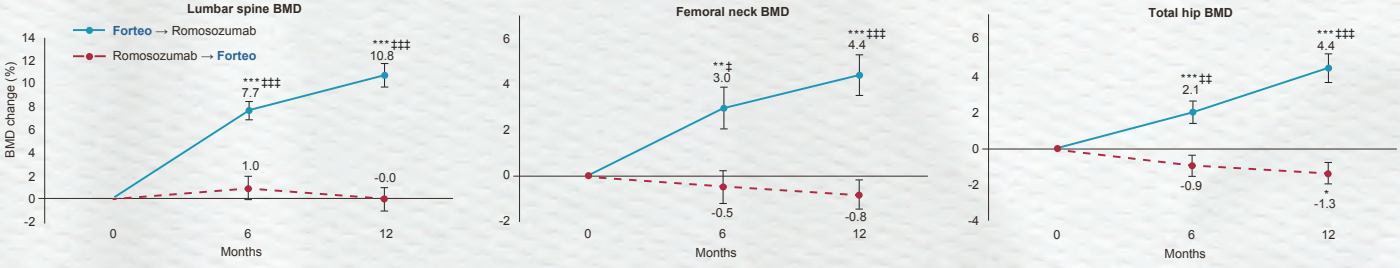
Different Treatment Sequences Lead to Different Outcomes in Very-High Risk Osteoporosis Patients

Forteo / Denosumab[11]



§p<0.05 vs both other groups.
‡p<0.0005 vs both other groups.
Study design: a randomised controlled trial/preplanned extension of the denosumab and Forteo administration study randomly assigned 94 postmenopausal osteoporotic women to receive 24 months of Forteo (20 µg daily), denosumab (60 mg every 6 months), or both drugs for 24 months. For the next 24 months the women switched to the other drug and those assigned both received denosumab alone.[11]

Forteo / Romosozumab[12]



**p<0.01 and ***p<0.001 vs baseline.
‡p<0.05, ‡‡p<0.01, and ‡‡‡p<0.001 vs romosozumab.
Study design: a multicentre retrospective cohort study compared 69 patients transitioning from Forteo to romosozumab (mean age 72.3, 91.3% women) to 25 patients transitioning from romosozumab to Forteo (mean age 67.6, 80% women). Patients were monitored for 12 months on the second drug. Key outcomes included changes in BMD, bone turnover marker changes, and adverse events.[12]

Future Directions: Anabolic Agents for Real Clinical Outcomes



Associate Professor Kwan, Yat-hong Kenny
Clinical Associate Professor and Chief of Division of Spine Surgery, Department of Orthopaedics & Traumatology, HKU

Novel , Opportunistic Methods For Osteoporosis Diagnosis

Hounsfield unit (HU)[13]

- *CT-based*

Suggested cut-off:
(based on a pooled analysis of 9 studies)

- **<135 HU** = osteoporosis diagnosis
- **<150 HU** = screening for osteoporosis

MRI vertebral body quality (VBQ) score[14,15]

- *Bone marrow infiltration relative to cerebrospinal fluid*

Suggested cut-off:
(based on a retrospective study)

- **≥3.05 VBQ** = screening for osteoporosis

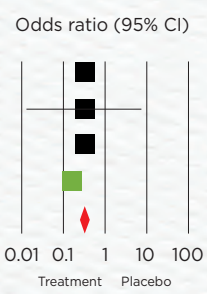
Patient Safety with Forteo

Meta-analysis of 12 RCTs of patients with stages 1–5 chronic kidney disease (CKD):

Forest plot of subgroup data (4 of 12 RCTs) on 4 anti-osteoporotic agents in postmenopausal women with CKD

Forteo treatment showed a **significantly lower risk of vertebral fractures** compared with placebo[16]

Agent	Statistics: Odds ratio	Lower limit	Upper limit	p-Value
Denosumab	0.308	0.240	0.396	0.000
Raloxifene	0.322	0.013	8.235	0.494
Romosozumab	0.296	0.163	0.539	0.000
Forteo	**0.182**	0.093	0.355	**0.000**
Total	0.290	0.234	0.361	0.000



Across anti-osteoporotic agents (**Forteo**, denosumab, romosozumab, and raloxifene) vs placebo:

Significantly lowered the risk of vertebral fractures for CKD stages 1–3[16]

No significant difference in renal, cardiovascular, and gastrointestinal **adverse events across CKD stages 1–3***[16]

*no adverse events reported for CKD stages 4–5 due to limited data availability

Abbreviations: BMD, bone mineral density; CI, confidence interval; CT, computed tomography; FU, follow-up; HU, Hounsfield unit; IOF/ESCEO, International Osteoporosis Foundation and European Society for Clinical and Economic Aspects of Osteoporosis and Osteoarthritis; MRI, magnetic resonance imaging; PMH, past medical history; RCT, randomized-controlled trial; ROM, range of motion; VBQ, vertebral body quality

References: 1. Dell RM, et al. JBJS 2009;91:79. **2.** Wong RMY, et al. Arch Osteoporos 2019;14:104. **3.** Johansson H, et al. Osteoporos Int 2017;28(3):775-780. **4.** Kanis JA, et al. Osteoporos Int 2020;31:1–12. **5.** Fleisch H. Endocr Rev 1998;19:80–100. **6.** Borah B, et al. J Bone Miner Res 2010;25(1):41-7. **7.** Boivin G, Meunier PJ. J Musculoskel Neuron Interac 2002;2:538-43. **8.** Seeman E. J Med Sci 2010;3(2):87-91. **9.** FORTEO Prescribing Information. **10.** Eriksen EF, et al. Calcif Tissue Int 2003;72(4):329. **11.** Leder BZ, et al. The Lancet 2015;386(999):1147-55. **12.** Kobayakawa T, et al. JBMR Plus 2024;8(12):ziae131. **13.** Ahern DP, et al. Spine J 2021;21(10):1738-1749. **14.** Ehresman J, et al. Spine J 2020;20(4):556-562. **15.** Pu M, et al. J Neurosurg Spine 2023:1-10. **16.** Sabaghian T, et al. Kidney Blood Press Res 2024;49(1):581-587.

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by Fiona Chan

Dose Optimisation of Mesalazine in Ulcerative Colitis



In ulcerative colitis (UC), treatment goals have evolved beyond symptom control to include objective measures of disease activity, such as biomarker normalisation, endoscopic, etc.[1] These treat-to-target principles highlight the need for regular non-invasive assessment of symptoms and inflammation using tools such as faecal calprotectin and, where available, intestinal ultrasound (IUS).[1]

Mesalazine Remains a First-line Therapy for Mild-to-moderate UC

Within this modern treatment landscape, mesalazine remains a first-line therapy for mild-to-moderate UC, supported by international guidelines for both induction and maintenance of remission due to its established efficacy and favourable safety profile.[2] Optimising mesalazine through appropriate dosing, combined oral and topical therapy when indicated, once-daily administration to improve adherence, and close monitoring can help maximise disease control before escalation to corticosteroids or advanced therapies thereby minimising unnecessary exposure to systemic treatment-related adverse effects.[2-4]

At the 2026 inflammatory bowel disease (IBD) symposium organised by the Hong Kong IBD Society, Dr. Joyce Mak discussed strategies for mesalazine dose optimisation, while Dr. Michael Ko shared practical, case-based insights into UC management.



Dr. Joyce Mak
Honorary Clinical Associate Professor, Department of Medicine and Therapeutics, The Chinese University of Hong Kong

The Synergy of Oral and Topical Mesalazine Therapy

The efficacy of mesalazine may be influenced by its formulation and the extent to which treatment is delivered directly to inflamed areas of the colon. In a meta-analysis of four randomised controlled trials involving 322 patients with mildly to moderately active UC, combined oral and topical mesalazine was superior to oral therapy alone in terms of inducing remission over 3–8 weeks.[5] Combination therapy reduced the risk of non-remission by 35% compared with oral mesalazine alone (hazard ratio [HR] 0.65, 95% confidence interval [CI] 0.47–0.91; P=0.01) (**Figure 1**).[5]

Selecting an appropriate formulation according to disease location, and combining oral with topical therapy when needed, can optimise mucosal drug delivery and improve the likelihood of remission,

particularly in distal and left-sided UC.[6,7] Dr. Joyce Mak further noted that IUS can support this approach by providing an objective, non-invasive assessment of disease activity, extent and location. These findings may help guide timely treatment optimisation.

Mesalazine Dosing Strategies

Once the appropriate route of delivery has been selected, the next key consideration is whether the dose is sufficient for the patient's disease extent and inflammatory burden.[2] When selecting a mesalazine dose to induce remission in UC, treatment should be individualised according to patient preference, disease extent and disease severity.[2] Patients with more extensive disease or greater inflammatory activity may require a higher oral dose of ≥4 g/day to achieve adequate disease control.[2] Dr. Joyce Mak further highlighted that, in suitable patients, this optimisation strategy may include increasing oral mesalazine to ≥4 g daily alongside mesalazine enema 1 g/100 mL daily before considering systemic treatment.

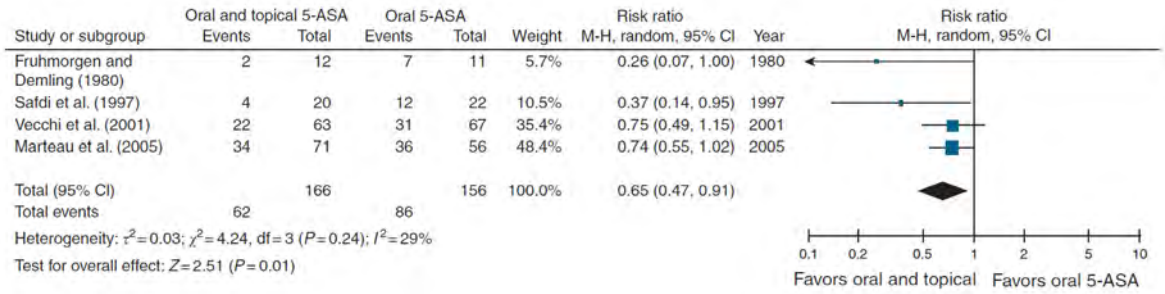


Figure 1. *Forest plot of randomised controlled trials of combined oral and topical mesalazine vs. oral mesalazine alone in inducing remission in active UC.*[5]

High-dose vs Low-dose Oral Mesalazine

Evidence from a meta-analysis evaluating remission induction in patients with left-sided and extensive colitis supports this dose-based approach.[8] High-dose oral mesalazine was the most effective dosing strategy compared with placebo, significantly reducing the risk of non-remission by 21% versus placebo (HR 0.79, 95% CI 0.68–0.93) (**Figure 2**).[8] By contrast, standard-dose and low-dose oral mesalazine did not show statistically significant reductions in non-remission versus placebo **(Figure 2)**.[8]

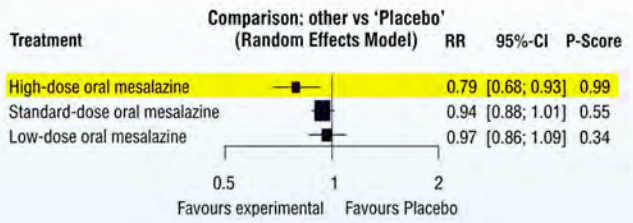


Figure 2. *Network meta-analysis forest plot showing the comparative likelihood of failure to achieve histological remission during induction therapy across mesalazine dosing strategies in patients with left-sided or extensive UC, where a lower relative risk indicates a greater likelihood of histological remission.*[8]

Once Daily, Oral Mesalazine Sachets to Improve Convenience and Adherence

In suitable patients, once-daily, higher-dose mesalazine sachets may improve convenience without compromising efficacy.[9] This was evaluated in the PODIUM study, a multicentre, randomised, single-blind, non-inferiority study involving 362 patients with quiescent UC.[9]

In this study, remission rates at 12 months were significantly higher with 2 g once-daily mesalazine sachets than with 1 g twice-daily mesalazine sachets (70.9% vs 58.9%, respectively) (**Figure 3**).[9] These findings support the use of once-daily, higher-dose oral mesalazine sachets in appropriate patients to improve adherence and treatment convenience while maintaining clinical effectiveness.[9]

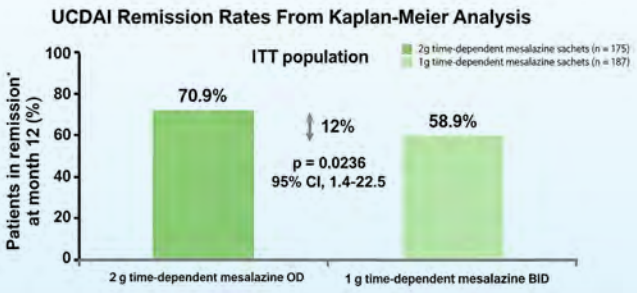


Figure 3. *Once-daily (QD) versus twice-daily (BID) mesalazine sachets dosing for maintenance of remission in patients with quiescent UC in the PODIUM study. The Kaplan–Meier analysis shows UCDAI remission rates at 12 months in the intention-to-treat population (ITT), demonstrating the increased efficacy of 2 g mesalazine QD, compared with 1 g mesalazine BID in maintaining remission, defined as UCDAI <1, in patients with quiescent disease.*[9]



Dr. Michael Ko
Honorary Clinical Assistant Professor,
Department of Medicine,
The University of Hong Kong

Case Presentation by Dr. Michael Ko

A 46-year-old man with extensive UC was admitted with a moderate flare. He had been maintained on oral mesalazine 3 g/day plus mesalazine enema1 g/100mL daily, but adherence had been variable.

During admission, treatment was optimised with budesonide MMX, escalation of oral mesalazine sachets to 2 g twice daily, and continuation of mesalazine enema. The patient's initial reluctance to use rectal therapy was addressed through education and reinforcement from clinicians and nurses. By Week 6, he had achieved clinical remission, discontinued budesonide, and continued mesalazine maintenance therapy with good adherence.

Patient Education Plus Sachet Formulation to Improve Adherence

This case highlights the importance of optimising mesalazine during induction of mild-to-moderate UC, using adequate oral dosing, generally ≥2 g/day, with rectal therapy, generally ≥1 g/day, where appropriate and in line with guideline recommendations.[10] It also emphasises the role of patient education, empowerment and formulation choice in improving adherence. Clear instruction on rectal therapy can address practical barriers, while switching from tablets to sachets or granules may improve convenience and persistence in selected patients.

Time Dependent Formulation is Less Influenced by pH in Active UC Patients

Formulation release characteristics should also be considered. In active UC, altered colonic luminal pH may affect pH-dependent mesalazine release, whereas time-dependent formulations are less influenced by pH variation.[11] Overall, this case demonstrates how optimised mesalazine dosing, adherence support, and appropriate formulation choice can support effective management of a moderate UC flare.

Key Takeaways

- Combining oral and topical mesalazine can enhance induction of remission by improving drug delivery across the colon and to the distal bowel.[2]
- Mesalazine dosing should be individualised according to disease extent and inflammatory burden, with higher optimised doses considered for more extensive or active UC.[2]
- Adherence is essential to treatment success and may be improved through patient education, practical support with rectal therapy, and convenient formulations such as mesalazine sachets, or once-daily dosing.[2,9]

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References:

1. Turner D. et al., Gastroenterology. 2021;160(5):1570-1583. **2.** D'Amico F. et al., Expert Rev Gastroenterol Hepatol. 2024;18(8):421-430. **3.** Schnoy E. et al., Z Gastroenterol. 2025; 63: 1053–1067. **4.** Paridaens K. et al., Front Gastroenterol. 2024;3:1335380. **5.** Ford AC. et al., Am J Gastroenterol. 2012; 107:167–176. **6.** Akyuz F. et al., Intest Res. 2025;23(1):37-55. **7.** IBD Clinic. University of Alberta. https://ibdclinic.ca/resources/5-asa/ Accessed 16 June 2026. **8.** Barberio B. et al., J Crohns Colitis. 2021;15(7):1184-1196. **9.** Dignas AU. et al., Clin Gastroenterol Hepatol. 2009;7(7):762-9. **10.** Raine T. et al., J Crohns Colitis. 2022;16(1):2-17. **11.** Ye B. and Langenberg RV. World J Gastrointest Pharmacol Ther. 2015; 6(4): 137-144.

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by Dr. Feng Xue

The Future Is Continuous: Innovations Driving the Next Generation of Glucose Monitoring

Continuous glucose monitoring (CGM) has revolutionised diabetes management over the past decade, providing real-time insights into glucose patterns that were previously impossible to obtain through traditional fingerstick testing. Recent technological advances have accelerated this transformation, making CGM systems more accurate, user-friendly, affordable, and increasingly integrated with digital health platforms. Today, CGM is no longer limited to people with type 1 diabetes, but is expanding into type 2 diabetes, prediabetes, pregnancy, and even broader metabolic health applications.

From Intermittent Testing to Continuous Insight

Traditional self-monitoring of blood glucose provides only single-point measurements and may miss important fluctuations occurring throughout the day and night. CGM systems, by contrast, measure glucose levels in interstitial fluid at frequent intervals, generating a comprehensive picture of glycaemic trends. This allows users and healthcare professionals to monitor not only glucose values but also glucose variability, time in range (TIR), and patterns of hyperglycaemia and hypoglycaemia. Recent clinical evidence demonstrates that CGM use improves glycaemic control, increases TIR, and reduces episodes of severe hypoglycaemia in both type 1 and type 2 diabetes.[1]

A significant shift in diabetes management has occurred as clinicians increasingly focus on glucose patterns and TIR rather than relying exclusively on glycated haemoglobin (HbA1c). CGM provides a dynamic assessment of glucose control, enabling more personalised therapeutic interventions.[1]

Improved Accuracy and Sensor Performance

One of the most important recent advances in CGM technology is enhanced analytical accuracy. Modern CGM systems have achieved mean absolute relative difference (MARD) values below 10%, approaching the accuracy of conventional blood glucose meters. Improvements in sensor chemistry, calibration algorithms, and signal processing have contributed to more reliable glucose readings across a wide range of glucose levels.[2]

Modern CGM systems minimise user disruption by shortening initial setup windows and extending operational life. Some advanced options provide an exceptionally brief 30-minute warm-up period, while other standard configurations extend wear up to14 to 15 days, reducing the burden of frequent sensor replacement. Smaller sensor profiles have enhanced comfort and wearability, improving patient adherence and satisfaction.[2,3] Additionally, most modern CGM systems are factory-calibrated, eliminating the need for routine fingerstick calibration. This advance has significantly simplified device use and increased patient acceptance.[2]

Integration with Automated Insulin Delivery Systems

Perhaps the most transformative development in diabetes technology is the integration of CGM with automated insulin delivery (AID) systems, often referred to as hybrid closed-loop systems. These systems combine CGM data, insulin pumps, and advanced algorithms that automatically adjust insulin delivery based on current and predicted glucose levels. Recent generations of AID systems can continuously modulate basal insulin rates and, in some cases, administer correction doses without patient intervention. Clinical



trials have demonstrated substantial improvements in TIR, reductions in hypoglycaemia, and lower HbA1c levels among users of these systems. The combination of real-time glucose monitoring and automated insulin dosing is moving diabetes care closer to the long-sought concept of an "artificial pancreas."[4,5] Importantly, these technologies reduce cognitive burden for people with diabetes, helping users manage glucose levels more effectively while improving quality of life.[6]

Artificial Intelligence and Predictive Analytics

Artificial intelligence (AI) is emerging as a powerful companion to CGM technology. CGM systems generate enormous volumes of glucose data that can be analysed using machine learning algorithms to identify patterns and predict future glucose excursions. Recent research has highlighted the potential of combining CGM with AI for personalised diabetes management and even prediabetes intervention. Advanced algorithms can forecast impending hypoglycaemia or hyperglycaemia, provide individualised recommendations, and support clinical decision-making. AI-driven analytics also help translate complex glucose datasets into actionable insights that are easier for both patients and healthcare providers to understand.[7]

Future AI-enabled platforms may integrate glucose data with information on physical activity, diet, sleep, medications, and other physiological parameters to generate truly individualised treatment recommendations. Such developments represent a major step toward precision medicine in diabetes care.[7]

Expansion Beyond Type 1 Diabetes

Historically, CGM was primarily used in type 1 diabetes. Recent studies, however, have demonstrated significant benefits in multiple patient populations. In people with type 2 diabetes, CGM use has been associated with improved glycaemic control (**Figure 1**), greater engagement in self-management behaviours, and enhanced understanding of the relationship between lifestyle factors and glucose responses. Even among individuals not receiving insulin therapy, CGM can help guide dietary choices, physical activity, and medication adherence.[4,8]

CGM is also expanding into gestational diabetes, pregnancy complicated by pre-existing diabetes, and high-risk metabolic conditions. Real-time glucose information allows tighter glycaemic control during pregnancy, contributing to improved maternal and neonatal outcomes.[2]

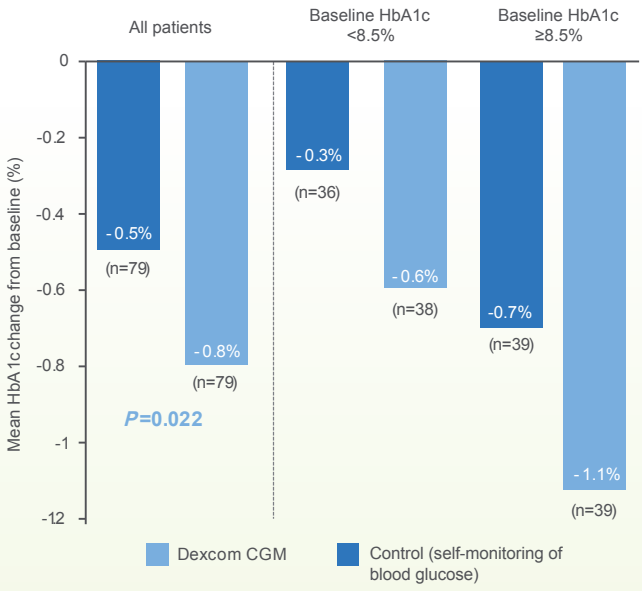


Figure 1. Mean HbA1c change from baseline to week 24.[8] The Dexcom CGM helps patients achieve better glycaemic control than traditional blood glucose monitoring, with even greater HbA1c reductions observed among patients with higher baseline HbA1c levels.

Researchers are increasingly exploring CGM applications in prediabetes and metabolic syndrome. Continuous monitoring may identify early glucose abnormalities that remain undetected with conventional laboratory testing, enabling earlier intervention and prevention of disease progression.[5,7]

The Rise of Over-the-Counter CGM

A landmark recent development has been the introduction of over-the-counter (OTC) CGM systems in the United States. In 2024, regulators cleared the first prescription-free CGMs designed for adults who do not use insulin. Such products have expanded access to glucose monitoring beyond traditional diabetes populations. These devices are intended for individuals with type 2 diabetes not using insulin, people with prediabetes, and health-conscious consumers interested in understanding their metabolic responses to food, exercise, sleep, and stress. By removing prescription barriers, OTC CGMs have the potential to democratise access to metabolic data and promote preventive healthcare. Although these systems generally lack advanced safety features required for insulin users, they represent an important step toward broader adoption of glucose monitoring technologies.[9,10]

Connectivity and Digital Health Ecosystems

Modern CGM systems are increasingly integrated with smartphones, smartwatches, cloud platforms, and telemedicine services. Real-time glucose data can be automatically transmitted to healthcare providers, caregivers, and family members. This connectivity supports remote monitoring and facilitates timely clinical intervention when needed. Cloud-based data sharing has proven particularly valuable in paediatric diabetes care, where parents can monitor a child's glucose levels remotely. It has also expanded opportunities for virtual diabetes clinics and telehealth-based disease management programmes.[2] The integration of CGM with mobile health applications has further enhanced patient engagement. Users can correlate glucose fluctuations with meals, physical activity, stress, and sleep, allowing more effective self-management and lifestyle modification.[4]

Future Directions

The next generation of CGM technology is expected to become even more accurate, less invasive, and more intelligent. Researchers are investigating longer-lasting sensors, fully implantable CGMs, and alternative sensing technologies. Advances in biosensor materials and signal-processing algorithms may further improve performance while reducing cost.[11]

Integration with multi-parameter wearable devices could provide simultaneous monitoring of glucose, heart rate, physical activity, sleep quality, and other biomarkers. Combined with AI-based predictive modelling, these systems may deliver increasingly personalised health recommendations and support proactive disease prevention.[7]

Conclusion

Continuous glucose monitoring has evolved from a specialised diabetes tool into a cornerstone of modern metabolic health management. Recent advances in sensor accuracy, automated insulin delivery, artificial intelligence, digital connectivity, and over-the-counter availability have dramatically expanded the clinical utility of CGM. As technology continues to advance, CGM is poised to play an even greater role in personalised medicine, preventive healthcare, and the long-term management of diabetes and related metabolic disorders. The convergence of wearable biosensors, AI, and digital health ecosystems promises a future in which glucose monitoring becomes more predictive, personalised, and accessible than ever before.

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References:

1. Kwon SY and Moon JS. Endocrinol Metab (Seoul). 2025;40(2):161-73. **2.** Association of Diabetes Care & Education Specialists. Comparing The Dexcom G7 and FreeStyle Libre 3. Available from: https://www.adces.org/education/danatech/glucose-monitoring/continuous-glucose-monitors-%28cgm%29/cgm-selection-training/dexcom-g7-libre-3-comparison. [Accessed 1 September 2026]. **3.** MDS Diabetes Encyclopedia. Dexcom G7 vs Abbott Libre 3 Plus: 2025 Head-to-Head. Available from: https://learn.mdsdiabetes.com/wiki/dexcom-g7-vs-abbott-libre-3-plus-2025-head-to-head. [Accessed 1 September 2026]. **4.** Kwon SY and Moon JS. Endocrinol Metab (Seoul). 2025;40(2):161–73. **5.** Umpierrez GE, Lansang MC. Endocr Pract. 2026;32(2):293-4. **6.** Dwiastuti A, et al. Diabetes Metab Syndr Obes. 2026;19:561759. **7.** Ji C, et al. Front Endocrinol (Lausanne). 2025;16:1571362. **8.** Beck RW, et al. Ann Intern Med. 2017;167:365-74. **9.** The diaTribe Foundation. FDA Clears Two New Abbott Over-the-Counter CGMs. Available from: https://diatribe.org/diabetes-technology/fda-clears-two-new-abbott-over-counter-cgms. [Accessed 1 September 2026]. **10.** Health Union. Comparing the Top Over-the-Counter Continuous Glucose Monitors. Available from: https://type2diabetes.com/living/compare-otc-cgm-options. [Accessed 1 September 2026]. **11.** Selim KK, et al. Microsyst Technol. 2026;32:69.

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Microcomputer tomography images of iliac crest in a postmenopausal woman treated with teriparatide[3]
Teriparatide treatment of postmenopausal women with osteoporosis significantly increased cancellous bone volume and connectivity, improved trabecular morphology, and increased cortical bone thickness.

TERIPARATIDE INCREASES CANCELLOUS BONE VOLUME, IMPROVES BONE ARCHITECTURE, AND INCREASES CORTICAL IN POSTMENOPAUSAL WOMEN WITH OSTEOPOROSIS[3]

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References
1. Forteo Hong Kong Prescribing Information.
2. Kuroshima S, et al. J Prosthodont Res. 2017; 61: 353–362.
3. Jiang Y, et al. J Bone Miner Res. 2003;18(11):1932-1941.

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by Fiona Chan

Survey Reveals Record Levels of Depression and Anxiety in Hong Kong



Hong Kong has long been characterised by a fast-paced, highly competitive, and socially demanding environment, conditions that may place considerable strain on the population's mental health. In response to growing concern about emotional well-being in the city, the Department of Social Work at The Chinese University of Hong Kong, in collaboration with the Mental Health Association of Hong Kong, conducted the seventh Hong Kong Depression Index Survey in 2025. Drawing on data collected through street booths and an online questionnaire, the survey received 2,695 valid responses. The results indicated that both the depression and anxiety indices had reached their highest recorded levels, with the greatest mental health burden observed among Generation Z respondents aged 18 to 24.

Increasing Burden of Psychological Distress

The 2025 survey found that Hong Kong's mean depression score had risen to 7.27, the highest ever level recorded since the survey began in 2012. The mean anxiety score also increased to 5.90, indicating a concurrent rise in psychological distress across the population. The survey further reported a 22% increase in the proportion of respondents experiencing moderate to severe depression, while severe anxiety cases had risen by approximately 40%. Taken together, these results point to a marked worsening of mental health conditions in Hong Kong and suggest that these challenges are impacting an increasingly broad segment of the population.[1]

Generation Z Reported the Highest Mental Health Burden

Among all age groups included in the survey, Generation Z respondents aged 18 to 24 reported the most concerning mental health outcomes. The data showed that 43.5% of individuals in this age group experienced moderate to severe depressive symptoms, representing the highest level of psychological distress across all surveyed cohorts. These findings highlight the particular vulnerability of young adults and underscore the urgent need for targeted mental health interventions. As they navigate academic demands, uncertainty in the early stages of their careers, financial pressures, evolving social expectations, and the pervasive influence of digital culture, many young people face a complex set of challenges that may place them at heightened risk of mental health difficulties.[1]

Screen Time Linked to Emotional Distress

The survey also identified a close association between excessive use of electronic devices and emotional distress. While digital platforms have become an integral part of daily life, prolonged screen exposure may contribute to social comparison, sleep disruption, information overload, and reduced face-to-face interaction. For young people in particular, constant use of social media, short-form videos, online messaging, and AI tools may intensify feelings of anxiety, loneliness, and inadequacy if not balanced by real-world support and healthy routines.[1]

More Than Half Did Not Seek Professional Support

Another important result was that over half of respondents did not seek professional support when experiencing emotional distress. This suggests that, despite growing public awareness of mental health, significant barriers to seeking help remain. These



may include stigma, concerns about confidentiality, uncertainty about where to seek help, long waiting times, financial concerns, or the belief that symptoms should be managed alone. This emphasises the need to make mental health support more accessible, acceptable, and responsive to people's actual needs.[1]

Growing Reliance on AI for Emotional Support

The survey also noted an emerging trend of people turning to AI for emotional support. While AI tools may provide immediate responses and a sense of anonymity, over-reliance on them may delay access to professional assessment and treatment. This raises important questions about how digital mental health tools can be used safely and appropriately, particularly by younger users.[1]

A Call to Turn Data Into Action

The 2025 Hong Kong Depression Index Survey highlights an urgent need for earlier, more accessible, and better-coordinated mental health support. Record-high depression and anxiety scores, particularly among young adults, reflect an emotional burden that extends beyond individuals to families, schools, workplaces, and communities. Turning the findings into action requires stronger preventive education, greater emotional literacy, enhanced peer and family support, accessible counselling and community-based services, and psychologically safe environments in schools and workplaces. By reducing stigma, improving awareness of available services, and ensuring that people can seek timely support without judgement, Hong Kong can build a more compassionate and responsive mental health support system.

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References:

1. The Chinese University of Hong Kong. CUHK reveals Hong Kong's depression and anxiety indices reach record highs; AI assistance rises to sixth place, while over-reliance may delay professional treatment [Press release]. Accessed 27 July 2026. https://www.cpr.cuhk.edu.hk/en/press/cuhk-reveals-hong-kongs-depression-and-anxiety-indices-reach-record-highs-ai-assistance-rises-to-sixth-place-over-reliance-may-delay-professional-treatment/

by Fiona Chan

EULAR 2026: Increased Risk of Cardiac Arrhythmias and Conduction Disorders in Autoimmune Diseases



The European Alliance of Associations for Rheumatology (EULAR) 2026 Congress (3 – 6 June 2026, London) added further weight to evidence that systemic autoimmune diseases have important cardiovascular consequences beyond immune dysregulation. A systematic review and meta-analysis presented at the Congress indicated that patients with autoimmune diseases have a significantly higher risk of cardiac arrhythmias and conduction disorders than the general population.

Meta-Analysis: Elevated Risk of Cardiac Arrhythmias and Conduction Disorders Across Autoimmune Diseases

The meta-analysis included 40 studies involving more than 210,000 patients with autoimmune diseases and over 800,000 controls. Eligible studies included adults with systemic lupus erythematosus (SLE), rheumatoid arthritis (RA), systemic sclerosis (SSc), Sjögren's syndrome, vasculitis, or spondyloarthritis, and reported atrial or ventricular arrhythmias, bradyarrhythmias, or conduction abnormalities. Overall, the risk of any arrhythmia was significantly higher in patients with autoimmune diseases, with a pooled hazard ratio (HR) of 1.62 (95 % confidence interval [CI], 1.00–2.64; $p < 0.05$).[1]

Disease-specific findings

Systemic Sclerosis

The risk varied substantially across different autoimmune conditions. SSc showed particularly strong associations with a markedly increased risk of both ventricular arrhythmias (HR, 3.86; 95 % CI, 1.92–7.75) and conduction disorders (HR, 2.57; 95 % CI, 1.48–4.45). This is clinically plausible given the vascular injury and fibrosis associated with SSc, which may involve the myocardium and cardiac conduction tissue.[1]

Rheumatoid Arthritis

In RA, atrial fibrillation was significantly more prevalent than in control populations (15.3% vs 6.0%; $p = 0.015$). This association was independent of traditional cardiovascular risk factors, supporting a potential contribution of RA–related systemic inflammation to increased arrhythmic risk.[1]

Ankylosing spondylitis and SLE

Additional findings were reported in ankylosing spondylitis, in which the odds of atrioventricular block were significantly increased compared with controls (odds ratio [OR], 3.46; 95% CI, 1.09–10.93). In SLE, QTc prolongation and ventricular arrhythmias were observed in 9% of the patients. In addition, anti-Ro/SSA seropositivity was associated with increased odds of arrhythmia (OR, 1.44; 95% CI, 1.25–1.66). Collectively, these findings suggest potential value in disease-specific and serology-informed cardiovascular risk stratification.[1]

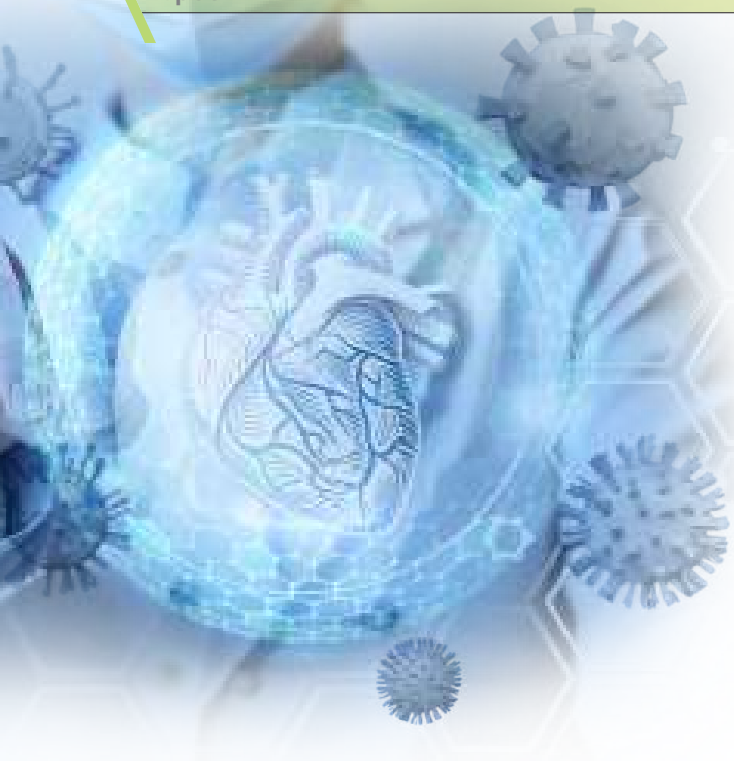
Consistent Evidence Despite Heterogeneity

Although the meta-analysis showed moderate heterogeneity ($I^2 = 48\%$), the direction of effect remained broadly consistent across the autoimmune diseases examined, supporting the overall robustness of the findings. Long-term cohort studies with follow-up exceeding five years further confirmed an increased cumulative risk of complex arrhythmias and pacemaker implantation, reinforcing the need for ongoing cardiovascular surveillance rather than one-off assessment.[1]

Implications for Practice

Identifying Patients at Increased Cardiovascular Risk

These findings reinforce the growing recognition that systemic autoimmune diseases are associated



with cardiovascular complications extending beyond accelerated atherosclerosis and thrombotic events. The observed increase in cardiac arrhythmias and conduction disorders suggests that cardiovascular risk assessment in patients with autoimmune diseases should include consideration of rhythm abnormalities, particularly in those with longstanding disease, high inflammatory burden, or symptoms suggestive of cardiac involvement. The magnitude of risk observed in SSc, RA, ankylosing spondylitis, and selected subgroups of SLE highlights the need for heightened clinical awareness across multiple rheumatic diseases.

Role of Cardiovascular Screening and Surveillance

Routine cardiovascular evaluation may facilitate earlier identification of subclinical arrhythmias and conduction abnormalities. Baseline and periodic electrocardiography (ECG) can be considered in patients with autoimmune diseases, particularly those with known cardiovascular involvement, persistent disease activity, or risk factors for cardiac complications. In patients reporting palpitations, syncope, presyncope, unexplained fatigue, dizziness, or exertional intolerance, ambulatory ECG monitoring, most commonly performed using a Holter Monitor, may provide additional diagnostic value. The findings from long-term cohort studies indicating increased rates of complex arrhythmias and pacemaker implantation further support the importance of ongoing surveillance rather than a single cardiovascular assessment.

Importance of Inflammation Control and Risk Factor Management

The mechanisms linking autoimmune diseases to arrhythmias are likely multifactorial and may include chronic systemic inflammation, autonomic dysfunction, myocardial inflammation, microvascular injury, and fibrosis affecting the cardiac conduction system. Consequently, arrhythmic risk may not be fully explained by traditional cardiovascular risk factors alone. Optimal control of underlying inflammatory disease may therefore represent an important component of cardiovascular risk reduction. In parallel, clinicians should continue to address modifiable cardiovascular risk factors, including hypertension, diabetes, dyslipidaemia, smoking, obesity, and physical inactivity, as part of a comprehensive management strategy.

Multidisciplinary Care and Future Directions

Given the complex interaction between immune-mediated disease and cardiovascular pathology, close collaboration between rheumatologists, cardiologists, and primary care physicians may help improve patient outcomes. Disease-specific patterns of arrhythmic risk, including the association between anti-Ro/SSA positivity and arrhythmias in SLE, also suggest potential opportunities for more personalised risk stratification. Taken together, these findings support a proactive, multidisciplinary approach to cardiovascular monitoring and management in patients with systemic autoimmune diseases, with the aim of detecting clinically significant cardiac involvement before irreversible complications occur.

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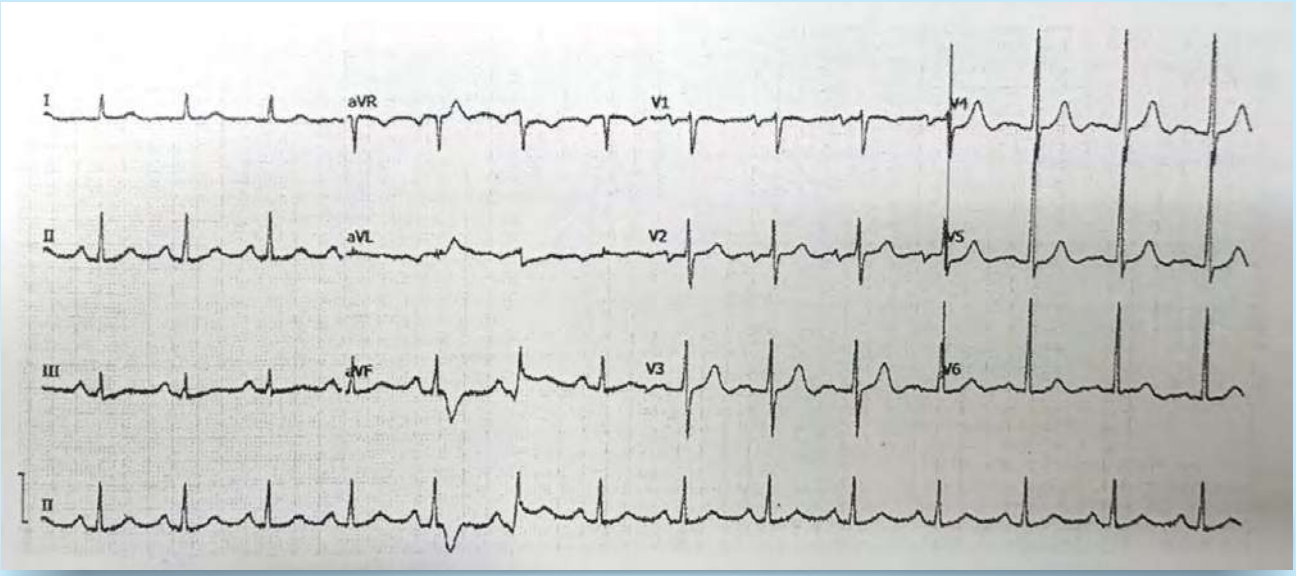
1. Theran Leon JS, et al. Cardiac Arrhythmias and Conduction Disorders in Autoimmune Diseases: A Systematic Review and Meta-Analysis. Presented at EULAR 2026; POS0159.

ECG CME OCTOBER 2026 (0.5 CME POINTS)

Dr. Pun Chiu On, Specialist in Cardiology

History:

This 50 year old female patient came to see you complaining of progressive effort intolerance. Examination revealed regular pulse. Blood pressure was 130/70 mm Hg. The cardiac apex was at the 5th inter-costal space, just lateral to mid-clavicular line. A grade 3/6 pansystolic murmur was heard best at the cardiac apex, radiating to axilla.



Question: **What is the ECG diagnosis?**

(Please tick one)

- ❑ Normal ECG
- ❑ Right atrial enlargement
- ❑ Left atrial enlargement
- ❑ Right ventricular hypertrophy
- ❑ Left ventricular enlargement

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Answer to August 2026 Issue's CME

ECG diagnosis:

Atrial premature beat (also known as atrial ectopic beat, or premature supraventricular complex) with aberrant conduction.

Reason for the ECG diagnosis:

- The P wave of the ectopic beat occurs prematurely, i.e. earlier than expected.
- The ectopic P wave is abnormal and different in shape from the usual normal P wave.
- In this ECG, the ectopic P waves occur so early that they superimpose on the preceding T waves.
- The QRS complexes following the ectopic P waves show aberrant conduction. Typically, the ectopic QRS complexes showed complete right bundle branch block pattern at leads V1-V3.
- The reason for the aberrant conduction is that the ectopic P waves occur very early and close to the preceding QRS complex (which indicate ventricular depolarization). Thus, when the electrical impulse from the atrial ectopic conducts down into ventricle via the conducting bundles, the right bundle branch is still refractory and not capable of conducting the electrical impulse, while the left bundle branch has recovered from its refractory period and is capable of conduction. The QRS complexes therefore assume a right bundle branch block configuration as more obvious in leads V1-V3.
- Post-extrasystolic pauses follow the premature beats. Please note the longer R-R interval following the premature beats.

Possible aetiology:

- Normal individual • Anxiety, fatigue • Drugs (e.g. digoxin), alcohol, tobacco, caffeine
- Atrial enlargement, heart failure • Ischaemic heart disease
- Hypoxia (e.g. chronic obstructive airway disease) • Thyrotoxicosis

Significance:

It depends on the underlying aetiology.
If no underlying cause is found, by itself it is not a dangerous arrhythmia.

Principle of management:

Manage the underlying cause.
If no underlying cause is found, and patient is much intolerable to the palpitation, try small dose of B-blocker or diltiazem for a while until patient is symptom free.

Management of this patient:

Echocardiography revealed mildly enlarged right ventricle and mild elevation of pulmonary systolic pressure. Subsequent chest x-ray showed features of chronic bronchitis, likely the result of his chronic smoking. He was advised to stop smoking. As he did not have any symptoms from the ectopics, treatment for his ectopics was not necessary then.

HONG KONG DOCTORS UNION 香港西醫工會

This ECG CME was prepared by Dr. Pun Chiu On, Specialist in Cardiology; and endorsed by the Hong Kong Doctors Union (HKDU).

by Michelle Lee

On-the-Pulse



Cardiology

Coenzyme Q10 Administration Significantly Reduces Systolic Blood Pressure[1]

A meta-analysis of 45 randomised controlled trials evaluated the efficacy of coenzyme Q10 administration on cardiovascular parameters in adults. The statistical synthesis demonstrated a significant reduction in systolic blood pressure, whereas changes in diastolic blood pressure and heart rate remained non-significant. Subgroup analyses showed greater systolic blood pressure reduction with doses under 200 mg daily or treatment durations exceeding 8 weeks. Patients with underlying health conditions also experienced greater therapeutic improvements compared to healthy individuals. Consequently, coenzyme Q10 serves as an effective, safe supportive therapy for managing systolic hypertension.

Exercise Physiology

Physiological Responses and Determinants of Hyrox© Performance[2]

Evaluation of recreational athletes during a simulated Hyrox© competition demonstrated high physiological strain, with maximum heart rate reaching 185 bpm, blood lactate rising to 8.5 mmol/L, and perceived exertion scoring 18. Athletes spent over 60% of the completion time running, yet exercise stations induced significantly higher heart rate, lactate accumulation, and perceived exertion than running segments. Faster overall completion times correlated strongly with higher maximum oxygen consumption, greater weekly endurance training volume, and lower body fat percentage. Measures of hand grip strength and muscle mass showed no significant association with total performance.

Psychiatry

Artificial Intelligence Safety in Mental Health[3]

Simulated vulnerability-amplifying interaction loops evaluated artificial intelligence chatbot safety in mental health interactions. Across 810 multi-turn conversations testing 9 models and 30 simulated user profiles, concerning behaviour was widespread, accumulated over conversation turns, and varied based on user vulnerability and intent. Risk peaked when chatbots reinforced maladaptive mechanisms underlying user vulnerabilities, particularly in psychosis or mania contexts and when users sought glorification of distress, emotional dependence, or assistance with risky actions. Newer model versions generally demonstrated reduced concerning behaviours, and single early de-escalating message interventions effectively mitigated risk accumulation.

Vaccinology

Phase 1 Clinical Trial of the ChAdOx1 Vaccine Target Against BDBV[4]

Researchers launched the world's first Phase 1 clinical trial evaluating the ChAdOx1 vaccine against Bundibugyo ebolavirus (BDBV) in response to ongoing outbreaks in the Democratic Republic of the Congo and Uganda. The study tests the safety, tolerability, and immune response of the viral vector platform vaccine across 50 healthy adults aged 18 to 55 years in Oxford. To accelerate testing, 4,000 investigational doses were supplied from a batch of 620,000 doses manufactured in two weeks. This program received 8.6 million US dollars in funding to support vaccine development and prepare for potential emergency use authorisation.

Neurology

Video Game-Based Hand Therapy Improves Motor Functions in Stroke Rehabilitation[5]

A randomised trial evaluated the impact of video game-based hand therapy on motor functions during stroke rehabilitation. Both intervention and control groups exhibited significant intragroup improvements across upper extremity motor assessments, functional task evaluations, manual dexterity tests, and dexterity index measurements. Intergroup analysis revealed that combining video game training with conventional therapy yielded superior outcomes in upper extremity motor scores, functional task performance, and kitchen activity sub-scores compared to standard therapy alone. Integrating video game hand exercise protocols enhances functional skill recovery in stroke patients.

Cardiology

Dual Strategy of Sodium Reduction and Potassium Enhancement for CV Health[6]

Public health guidelines traditionally emphasise sodium reduction to manage blood pressure and lower cardiovascular disease risk, yet reducing sodium intake globally remains difficult due to taste preferences and food production complexities. Recent evidence indicates that inadequate potassium intake contributes significantly to hypertension aetiology, prompting a necessary shift from focusing solely on sodium reduction to incorporating increased potassium consumption. Clinical trials show that replacing dietary sodium with potassium salt substitutes lowers blood pressure and adverse outcomes. Combining education, food reformulation, and public policy into a dual sodium and potassium strategy offers a more effective path to advance global cardiovascular health.

References

1. Karimi M, et al. Int J Cardiol Cardiovasc Risk Prev. 2025;26:200424. **2.** Brandt T, et al. Front. Physiol. 2025;16:1519240. **3.** Weilnhammer V, et al. Nat Med. 2026. https://doi.org/10.1038/s41591-026-04577-2. **4.** World's first Phase I Bundibugyo ebolavirus vaccine trial launched by Oxford Vaccine Group. Available from: https://www.ox.ac.uk/news/2026-07-13-worlds-first-phase-i-bundibugyo-ebolavirus-vaccine-trial-launched-by **5.** Köstekçi H, et al. Physiother Res Int. 2026;31(1):e70144. **6.** Fukagawa NK, et al. Am J Clin Nutr. 2026;124(2):101396.



"Fostering Innovation Through Continuous Medical Education with On the Pulse"

by Dr. Feng Xue

Over 1,000 Attend The Celebratory Event of 2026 「中國醫師節」香港慶祝大會

"United by Compassion, Handing down Values, With Gratitude to You"



The celebratory event of 2026「中國醫師節」香港慶祝大會 was successfully held on 17 August, bringing together more than 1,000 members of the medical community to commemorate the occasion and recognise the invaluable contributions of healthcare professionals. The event was jointly organised by the Department of Health, the Hospital Authority, the Hong Kong Academy of Medicine, the Li Ka Shing Faculty of Medicine of the University of Hong Kong, the Faculty of Medicine of the Chinese University of Hong Kong, the Hong Kong Chinese Medical Association, and the Hong Kong Registered Chinese Medicine Practitioners Association.

The theme of this year's celebration, "**United by Compassion, Handing down Values, With Gratitude to You**"（醫心相連、杏林傳承、感恩有您）, highlighted the spirit of professional dedication, intergenerational mentorship, and appreciation for healthcare workers.

Recognising the Contributions of the Medical Profession

Addressing the audience, Lo Chung-mau, Secretary for Health, expressed his gratitude to healthcare professionals for their unwavering commitment to patient care and emphasised the vital role of doctors in advancing the *Healthy China* initiative. He also noted that the completion of the Hong Kong Chinese Medicine Hospital represents a significant milestone for the development of Chinese Traditional Medicine and a source of encouragement for practitioners in the field.





Inspiring Insights from Professor Dennis Lo

A highlight of the evening was a keynote lecture delivered by Professor Dennis Lo Yuk-ming, President of the Chinese University of Hong Kong and a distinguished guest of the event. His presentation, entitled "**Non-invasive Prenatal and Cancer Testing: From Dream to Reality**," traced the remarkable journey of scientific innovation that has transformed disease detection and patient care.



Emphasising Intergenerational Exchange and Medical Heritage

This year's celebration placed particular emphasis on engaging the younger generation. Young doctors and medical students actively participated as performers, volunteers, emcees, and guest speakers, reflecting the profession's commitment to nurturing future healthcare leaders.



To underscore the importance of mentorship and succession, the programme included several intergenerational sharing sessions featuring conversations between senior physicians and younger colleagues. These exchanges offered valuable insights into professional development, lifelong learning, and the enduring values of medical practice.









Honouring Outstanding Young Doctors

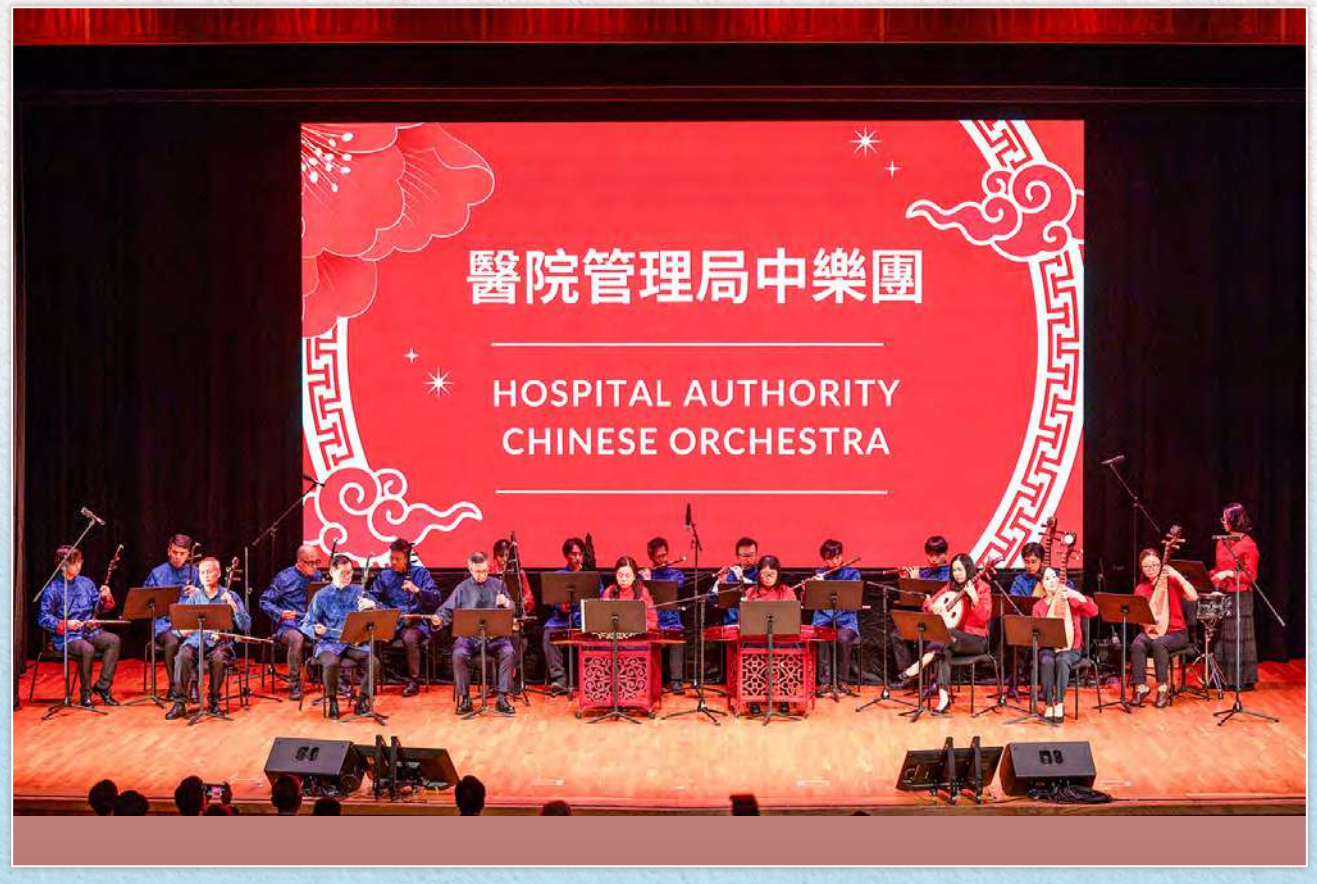
During the ceremony, Henry Fan Hung-ling, Chairman of the Hospital Authority, presented the 2026 Outstanding Intern Award to ten young doctors in recognition of their exceptional performance and dedication during their internship training. The awards highlighted the achievements of emerging medical talents and celebrated excellence within the profession.



Music, Fellowship and Community Appreciation

The celebration also featured a variety of performances by members of the medical community. These included The *Nephrons*, a band composed of nephrology specialists; the Kids' Dream Choir, formed by children with kidney diseases; performance by the members of the Hong Kong Thoracic Society; and the Hospital Authority Chinese Orchestra. The evening culminated with a grand performance by the 2026「中國醫師節」香港慶祝大會 Choir.







Beyond the event venue, public appreciation for healthcare professionals extended across Hong Kong. Supported by Sun Hung Kai Properties, the Ng Teng Fong Charitable Foundation of Sino Group, and the Shangri-La Group, the celebration theme was projected onto the exterior of the International Commerce Centre (ICC) on the evening of 19 August, enabling members of the public along Victoria Harbour to join in expressing gratitude to healthcare workers for their dedication and service.

Celebrating Dedication and Looking Ahead

The 2026「中國醫師節」香港慶祝大會 successfully brought together healthcare professionals, educators, students, and community partners in a shared expression of appreciation and solidarity. Through recognition of professional excellence, the promotion of mentorship, and public acknowledgment of healthcare workers' contributions, the event reaffirmed the medical community's commitment to caring for patients and advancing healthcare for future generations.



by Dr. Feng Xue

Oncology

DATROWAY®

(datopotamab deruxtecan)

Antibody-drug conjugate

DAIICHI SANKYO HONG KONG LIMITED

HK Reg. No. HK-69101 (18 May, 2026)

Composition[1]:

One vial of powder for concentrate for solution for infusion contains 100 mg of datopotamab deruxtecan

Respiratory Medicine

CAPVAXIVE®

(pneumococcal vaccines)

21-valent pneumococcal polysaccharide conjugate vaccine

MERCK SHARP & DOHME (ASIA) LTD

HK Reg. No. HK-69102 (18 May, 2026)

Composition[2]:

- 1 dose (0.5 mL) contains 4 mcg of the following pneumococcal polysaccharide serotypes*: 3, 6A, 7F, 8, 9N, 10A, 11A, 12F, 15A, pneumococcal polysaccharide from deOAc15B (de-O-acetylated serotype 15B), 16F, 17F, 19A, 20A, 22F, 23A, 23B, 24F, 31, 33F, 35B
- 1 dose (0.5 mL) contains approximately 65 mcg CRM_{197} carrier protein

*Conjugated to CRM_{197} carrier protein

Endocrinology

TRESIBA®

(insulin degludec)

Basal insulin for once-daily subcutaneous administration

NOVO NORDISK HONG KONG LIMITED

HK Reg. No. HK-69109 (28 May, 2026)

Composition[3]:

TRESIBA® 100 units/mL FlexTouch solution for injection in pre-filled pen:

One pre-filled pen contains 300 units of insulin degludec in 3 mL solution



Cardiology

OPSUMIT®

(macitentan)

Endothelin receptor antagonist

JOHNSON & JOHNSON (HONG KONG) LTD

HK Reg. No. HK-69121 (02 Jun, 2026)

Composition[4]:

OPSUMIT ® is available as 2.5 mg dispersible tablets

Indication[4]:

OPSUMIT®, as monotherapy or in combination, is indicated for the long-term treatment of pulmonary arterial hypertension (PAH) in paediatric patients aged 2 years to less than 18 years with WHO Functional Class (FC) II to III

References

1. Drug office. DATROWAY POWDER FOR CONCENTRATE FOR SOLUTION FOR INFUSION 100MG. Available from: https://www.drugoffice.gov.hk/eps/drug/productDetail/en/pharmaceutical_trade/160525. [Accessed 12 August 2026]. **2.** Drug office. CAPVAXIVE 21-VALENT PNEUMOCOCCAL POLYSACCHARIDE CONJUGATE VACCINE IN PRE-FILLED SYRINGE 0.5ML. Available from: https://www.drugoffice.gov.hk/eps/drug/productDetail/en/pharmaceutical_trade/160367. [Accessed 12 August 2026]. **3.** Drug Office. TRESIBA FLEXTOUCH SOLUTION FOR INJECTION IN PRE-FILLED PEN 100U/ML 3ML. Available from: https://www.drugoffice.gov.hk/eps/drug/productDetail/en/pharmaceutical_trade/160528. [Accessed 12 August 2026]. **4.** OPSUMIT 2.5MG Hong Kong Prescribing Information.

The information contained in The Pace is provided solely as a courtesy to its readers and is intended for reference by qualified healthcare professionals. While reasonable efforts may be made to obtain local prescribing information (PI) and/or professional opinions from relevant pharmaceutical companies, such information or input may not always be available. In the absence of local PI, publicly accessible sources, including but not limited to materials issued by the United States Food and Drug Administration (FDA) and the European Medicines Agency (EMA), may be referenced.

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All readers are strongly advised to consult the most current locally approved prescribing information prior to making any prescribing or clinical decisions.



Upcoming Academic Events in Hong Kong

October–November 2026

Hong Kong Valves Organising Committee

Hong Kong Valves 2026

Oct 16-18
Friday-Sunday

Minimally Invasive Neurosurgery Training Academy (MINTA)

4th World Congress of Young Neurosurgeons

Oct 30-Nov 1
Friday-Sunday

The Asian Paediatric Pulmonology Society

11th APPS Annual Scientific Congress

Oct 30-Nov 1
Friday-Sunday

The Hong Kong College of Anaesthesiologists

Annual Scientific Meeting in Anaesthesiology 2026 –Safety

Oct 31-Nov 1
Saturday-Sunday

Conference Fora

International Conference on Pulmonary, Respiratory Medicine and Healthcare

Nov 5-6
Thursday-Friday

Hong Kong Thoracic Society

HKTS/CHEST Autumn Respiratory Seminar cum Airway Disease Course 2026

Nov 6-8
Friday-Sunday

Hong Kong College of Radiologists

Hong Kong College of Radiologists 34th Annual Scientific Meeting

Nov 21-22
Saturday-Sunday

Li Ka Shing Faculty of Medicine, The University of Hong Kong

U21 Health Sciences Group 2026 Annual Meeting

Nov 23-26
Monday-Thursday

Asia Cornea Society

10th Biennial Scientific Meeting of the Asia Cornea Society

Nov 27-29
Friday-Sunday

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- ✔ **readable**
- ✔ **user-friendly**

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2 Products are differentiated through color





3 Strength stands out in a colored roundel



4 We reassure patients with our trusted Teva brand

5 The back-of-pack table clearly structures additional information



6 Key info on each side allows pack storage in any direction

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- 0% resistance detected at 5 years[1]
- No dosage adjustment for patients with eCrCl≥15mL/min or ESRD receiving chronic hemodialysis[4]

ALT: Alanine Aminotransferase CHB: Chronic Hepatitis B; eCrCl: Estimated Creatinine Clearance; ESRD: End Stage Renal Disease

*Comparison of ALT normalization, viral suppression, and impact on renal and bone function were made between tenofovir aladenamide and tenofovir disoproxil fumarate.[1-3]

Product photo shown is not actual size.
The person depicted is not an actual healthcare professional

Reference:

1. Chan HLY, Buti M, Agarwal K, et al. Maintenance of high levels of viral suppression and improved safety profile of tenofovir alafenamide relative to tenofovir disoproxil fumarate in chronic hepatitis B patients treated for 5 years in 2 ongoing phase 3 studies. Poster presented at: AASLD: November 13-16, 2020. Vitual 803.
2. Buti M, Gane E, Seto WK, et al. Tenofovir alafenamide versus tenofovir disoproxil fumarate for the treatment of patients with HBeAg-negative chronic hepatitis B virus infection: a randomised, double-blind, phase 3, non-inferiority trial. Lancet Gastroenterol Hepatol. 2016;1:196-206.
3. Chan HL, Fung S, Seto WK, et al. Tenofovir alafenamide versus tenofovir disoproxil fumarate for the treatment of HBeAg-positive chronic hepatitis B virus infection: a randomised, double-blind, phase 3, noninferiority trial. Lancet Gastroenterol Hepatol. 2016 Nov;1(3):185-195.
4. Vemlidy Prescribing Information. (Version HK-JUN22-US-SEP21).

VEMLIDY® Abbreviated Prescribing Information (Version: HK-JUN22-US-SEP21) Presentation: Tablets: 25 mg of tenofovir alafenamide - yellow, round, film-coated tablets, debossed with "GSI" on one side of the tablet and "25" on the other side. **Indications:** VEMLIDY is indicated for the treatment of chronic hepatitis B virus (HBV) infection in adults with compensated liver disease. **Dosage:** Prior to initiation of VEMLIDY, patients should be tested for HIV-1 infection. VEMLIDY alone should not be used in patients with HIV infection. Adults: The recommended dosage is 25 mg (one tablet) taken orally once daily with food. Patients with Renal Impairment: No dosage adjustment is required in patients with estimated creatinine clearance greater than or equal to 15 mL/min, or in patients with end stage renal disease (ESRD; estimated creatinine clearance below 15 mL/min) who are receiving chronic hemodialysis. On days of hemodialysis, administer VEMLIDY after completion of hemodialysis treatment. VEMLIDY is not recommended in patients with ESRD who are not receiving chronic hemodialysis. Patients with Hepatic Impairment: No dosage adjustment is required in patients with mild hepatic impairment (Child-Pugh A). Not recommended in patients with decompensated (Child-Pugh B or C) hepatic impairment. **Contraindications:** None. **Warnings and Precautions:** Severe acute exacerbation of Hepatitis B after discontinuation of treatment: Discontinuation of VEMLIDY, may result in severe acute exacerbations of hepatitis B. Patients who discontinue VEMLIDY should be closely monitored with both clinical and laboratory follow-up for at least several months after stopping treatment. If appropriate, resumption of anti-hepatitis B therapy may be warranted. Risk of development of HIV-1 resistance in patients coinfected with HBV and HIV-1: Due to the risk of development of HIV-1 resistance, VEMLIDY alone is not recommended for the treatment of HIV-1 infection. The safety and efficacy have not been established in patients coinfected with HBV and HIV-1. HIV antibody testing should be offered to all HBV-infected patients before initiating therapy with VEMLIDY, and, if positive, an appropriate antiretroviral combination regimen that is recommended for patients coinfected with HIV-1 should be used. New onset or worsening renal impairment: Prior to or when initiating VEMLIDY, and during treatment with VEMLIDY on a clinically appropriate schedule, assess serum creatinine, estimated creatinine clearance, urine glucose, and urine protein in all patients. In patients with chronic kidney disease, also assess serum phosphorus. Discontinue VEMLIDY in patients who develop clinically significant decreases in renal function or evidence of Fanconi syndrome. Lactic acidosis/severe hepatomegaly with steatosis: Treatment with VEMLIDY should be suspended in any patient who develops clinical or laboratory findings suggestive of lactic acidosis or pronounced hepatotoxicity (which may include hepatomegaly and steatosis even in the absence of marked transaminase elevations). **Adverse reactions:** Refer to warning and precautions for severe acute exacerbation of hepatitis B, new onset or worsening of renal impairment, and lactic acidosis/severe hepatomegaly with steatosis. Headache, abdominal pain, cough, back pain, fatigue, nausea, arthralgia, diarrhea and dyspepsia were reported in ≥ 5% of subjects in clinical studies. **Drug interactions:** Anticonvulsants: carbamazepine, oxcarbazepine, phenobarbital, phenytoin. Antimycobacterial: rifabutin, rifampin, rifapentine. Herbal Products: St. John's wort. Drugs that reduce renal function or compete for active tubular secretion such as acyclovir, cidofovir, ganciclovir, valacyclovir, valganciclovir, aminoglycosides (e.g., gentamicin), and high-dose or multiple NSAIDs. **Before prescribing, please consult full prescribing information which is available upon request.** VEMLIDY is a registered trademark of Gilead Sciences, Inc., or its related companies.

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